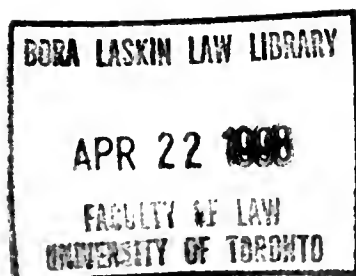


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1997—11—22

ONTARIO REGULATION 400/97 made under the INCOME TAX ACT

Made: October 29, 1997

Filed: November 3, 1997

Amending Reg. 646 of R.R.O. 1990
(Amounts Deducted or Withheld by Employers)

Note: Regulation 646 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Paragraph 8 of subsection 3 (1) of Regulation 646 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

8. 49 per cent, if the payment of remuneration is made after December 31, 1996 and before July 1, 1997.
9. 47 per cent, if the payment of remuneration is made after June 30, 1997 and before January 1, 1998.
10. 45 per cent, if the payment of remuneration is made after December 31, 1997.

(2) Paragraph 8 of subsection 3 (3) of the Regulation is revoked and the following substituted:

8. 49 per cent, if the payment of remuneration is made after December 31, 1996 and before July 1, 1997.
9. 47 per cent, if the payment of remuneration is made after June 30, 1997 and before January 1, 1998.
10. 45 per cent, if the payment of remuneration is made after December 31, 1997.

(3) Paragraphs 13 and 14 of subsection 3 (8) of the Regulation are revoked and the following substituted:

13. In the case of a payment of remuneration made after December 31, 1996 and before July 1, 1997 from which an amount is required to be deducted or withheld under subsection (1), the aggregate of 20 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$4,650 plus 24 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$6,360, divided by the maximum number of pay periods for that year.
14. In the case of a payment of remuneration made after December 31, 1996 and before July 1, 1997 from which an amount is required to be deducted or withheld under subsection (3), the aggregate of 20 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$4,650 plus 24 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$6,360, multiplied by the ratio of the amount of the payment of remuneration to the amount of the employee's notional net

remuneration for the year determined under paragraph 102 (2) (e) of the Federal Regulations.

15. In the case of a payment of remuneration made after June 30, 1997 and before January 1, 1998 from which an amount is required to be deducted or withheld under subsection (1), the aggregate of 20 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$4,460 plus 28 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$6,000, divided by the maximum number of pay periods for that year.
16. In the case of a payment of remuneration made after June 30, 1997 and before January 1, 1998 from which an amount is required to be deducted or withheld under subsection (3), the aggregate of 20 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$4,460 plus 28 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$6,000, multiplied by the ratio of the amount of the payment of remuneration to the amount of the employee's notional net remuneration for the year determined under paragraph 102 (2) (e) of the Federal Regulations.
17. In the case of a payment of remuneration made after December 31, 1997 from which an amount is required to be deducted or withheld under subsection (1), the aggregate of 20 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$4,270 plus 30 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$5,635, divided by the maximum number of pay periods for that year.
18. In the case of a payment of remuneration made after December 31, 1997 from which an amount is required to be deducted or withheld under subsection (3), the aggregate of 20 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$4,270 plus 30 per cent of the amount, if any, by which the notional provincial tax of the employee for that year exceeds \$5,635, multiplied by the ratio of the amount of the payment of remuneration to the amount of the employee's notional net remuneration for the year determined under paragraph 102 (2) (e) of the Federal Regulations.

(4) Subsection 3 (9) of the Regulation is amended by striking out clause (d) and substituting the following:

- (d) \$161 if the employee's taxation year ends after December 31, 1997.

(5) Section 3 of the Regulation is amended by adding the following subsection:

(11) In the case of a payment of remuneration to an employee made after December 31, 1996 and before January 1, 1998, the following rules apply:

1. If the payment of remuneration is made before July 1 in 1997, no amount shall be deducted or withheld from the payment if the notional provincial tax of the employee for his or her 1997 taxation year is equal to or less than \$174.

2. If the payment of remuneration is made after June 30 in 1997, no amount shall be deducted or withheld from the payment if the notional provincial tax of the employee for his or her 1997 taxation year is equal to or less than \$168.

2. This Regulation shall be deemed to have come into force on July 1, 1997.

47/97

ONTARIO REGULATION 401/97
made under the
INCOME TAX ACT

Made: October 29, 1997
Filed: November 3, 1997

Amending Reg. 647 of R.R.O. 1990
(Ontario Tax Reduction)

Note: Since January 1, 1997, Regulation 647 has been amended by Ontario Regulation 20/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Subsection 1 (1.4) of Regulation 647 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

(1.4) For the purposes of section 7 of the Act, the individual's personal amount for the 1997 taxation year is determined by the formula,

$$\$171 + A + B$$

where,

"A" is the total of \$334 for each child who is a dependant of the individual and who was under 18 years of age at any time in the taxation year, and

"B" is the total of \$334 for each infirm or disabled dependant of the individual.

(1.5) For the purposes of section 7 of the Act, the individual's personal amount for the 1998 and each subsequent taxation year is determined by the formula,

$$\$161 + A + B$$

where,

"A" is the total of \$331 for each child who is a dependant of the individual and who was under 18 years of age at any time in the taxation year, and

"B" is the total of \$331 for each infirm or disabled dependant of the individual.

(2) Subsection 1 (2) of the Regulation is amended by striking out the portion before clause (a) and substituting the following:

(2) An individual may include an amount in respect of a dependant in the calculation of "A" for a taxation year under subsection (1.2), (1.3), (1.4) or (1.5) only if,

(3) Subsection 1 (3) of the Regulation is amended by striking out the portion before clause (a) and substituting the following:

(3) An individual may include an amount in respect of an infirm or disabled dependant in the calculation of "B" for a taxation year under subsection (1.2), (1.3), (1.4) or (1.5) only if,

2. This Regulation shall be deemed to have come into force on January 1, 1997.

47/97

ONTARIO REGULATION 402/97
made under the
MUNICIPAL ELECTIONS ACT, 1996

Made: October 31, 1997
Filed: November 3, 1997

Amending O. Reg. 338/97
(Transitional Matters—1997 Regular Election for
The City of Toronto)

Note: Ontario Regulation 338/97 has not previously been amended.

1. The Schedule to Ontario Regulation 338/97 is amended by adding the following item at the end:

| | |
|--|--------------------------|
| Glen Garden Apartments 989 Eglinton Avenue West, City of York | 3:00 p.m. - 6:00 p.m. |
|--|--------------------------|

2. This Regulation shall be deemed to have come into force on September 3, 1997.

AL LEACH
Minister of Municipal Affairs and Housing

Dated on October 31, 1997.

47/97

ONTARIO REGULATION 403/97
made under the
BUILDING CODE ACT, 1992

Made: October 29, 1997
Filed: November 3, 1997

GENERAL

This Regulation will appear in the November 29, 1997 issue of *The Ontario Gazette*.

47/97

ONTARIO REGULATION 404/97
made under the
EDIBLE OIL PRODUCTS ACT

Made: October 29, 1997
Filed: November 3, 1997

Amending Reg. 282 of R.R.O. 1990
(General)

Note: Regulation 282 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 1 of Regulation 282 of the Revised Regulations of Ontario, 1990 is amended by adding the following definitions:

"milk solids" means any component of milk, singly or in combination, other than water, that has not been altered in its chemical composition;

"oleomargarine" means a food substance prepared for the same uses as butter that is manufactured wholly or partly from a fat or oil from a source other than milk but does not contain any fat or oil from milk.

2. (1) Subsection 2 (1) of the Regulation is amended by striking out "other than oleomargarine" in the first line.

(2) Section 2 of the Regulation is amended by adding the following subsections:

(3) A manufacturer or wholesaler of oleomargarine is exempt from the requirement under section 4 of the Act to have a licence with respect to oleomargarine.

(4) The maximum amount of milk solids oleomargarine may contain is as set out in the following table:

STANDARDS FOR OLEOMARGARINE

| Percentage (by weight) of edible oil in oleomargarine | Maximum percentage (by weight) of milk solids |
|---|---|
| Not more than 40% | 2.8% |
| Between 40% and 80% | 2.0% |
| Not less than 80% | 1.4% |

3. Section 6 of the Regulation is amended by adding the following subsection:

(7.1) Subsections (3) and (4) and clause (7) (a) do not apply with respect to oleomargarine.

4. This Regulation comes into force on the day the *Oleomargarine Act* is repealed.

47/97

ONTARIO REGULATION 405/97
made under the
MUNICIPAL ACT

Made: November 4, 1997
Filed: November 4, 1997

Amending O. Reg. 27/96
(Licensing Powers)

Note: Since January 1, 1997, Ontario Regulation 27/96 has been amended by Ontario Regulation 379/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Ontario Regulation 27/96 is amended by adding the following section:

4. A local municipality does not have the power under Part XVII.1 or section 232 of the Act to license, regulate or govern,

(a) a courier business wherein parcels and documents are conveyed in vehicles used for hire (other than buses and cabs); or

(b) the owners or drivers of vehicles used for hire in a courier business (other than buses and cabs) for the conveyance of parcels and documents.

AL LEACH
Minister of Municipal Affairs and Housing

Dated on November 4, 1997.

RÈGLEMENT DE L'ONTARIO 405/97
pris en application de la
LOI SUR LES MUNICIPALITÉS

pris le 4 novembre 1997
déposé le 4 novembre 1997

modifiant le Règl. de l'Ont. 27/96
(Pouvoirs en matière de délivrance de permis)

Remarque : Depuis le 1^{er} janvier 1997, le Règlement de l'Ontario 27/96 a été modifié par le Règlement de l'Ontario 379/97. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. Le Règlement de l'Ontario 27/96 est modifié par adjonction de l'article suivant :

4. Ni la partie XVII.1 ni l'article 232 de la Loi ne confèrent à une municipalité locale le pouvoir d'assujettir à l'obtention de permis, de réglementer ou de régir, selon le cas :

a) une entreprise de messagerie où des colis et des documents sont transportés dans des véhicules utilisés à des fins de location (autres que les autobus et les taxis);

b) les propriétaires ou les chauffeurs de véhicules utilisés à des fins de location par une entreprise de messagerie (autres que les autobus et les taxis) pour le transport de colis et de documents.

AL LEACH
Ministre des Affaires municipales et du Logement

Fait le 4 novembre 1997.

ONTARIO REGULATION 406/97
made under the
ONTARIO PLANNING AND DEVELOPMENT ACT, 1994

Made: October 28, 1997
Filed: November 7, 1997

Amending O. Reg. 482/73
(County of Halton (now The Regional Municipality of Halton),
City of Burlington)

Note: Since January 1, 1997, Ontario Regulation 482/73 has been amended by Ontario Regulations 135/97, 254/97 and 283/97. For prior amendments, see the Tables of Regulations in the Statutes of Ontario, 1991 and the Statutes of Ontario, 1996.

1. Subparagraph 1v of paragraph 1 of subsection 2 (2) of Ontario Regulation 482/73 is amended by adding the following sub-subparagraph:

- I. Those parts of lots 9, 10, 11 and 12 in Concession 1 in the geographic Township of East Flamborough in the City of Burlington, in the Regional Municipality of Halton, being Parcel 9-1 Section EF1, designated as parts 1 to 10 inclusive, on Reference Plan 20R-10960 deposited in the Land Registry Office for the Land Titles Division of Halton (No. 20).

Meredith Beresford
Director
Provincial Planning Services Branch
Ministry of Municipal Affairs and Housing

Dated on October 28, 1997.

47/97

Publications under the Regulations Act Publications en vertu de la Loi sur les règlements

1997—11—29

ONTARIO REGULATION 403/97 made under the BUILDING CODE ACT, 1992

Made: October 29, 1997
Filed: November 3, 1997

GENERAL

Part 1 Scope and Definitions

| | | |
|---------|--------|----------------------------------|
| Section | 1.1. | General |
| | 1.1.1. | Administration |
| | 1.1.2. | Scope |
| | 1.1.3. | Definitions of Words and Phrases |
| | 1.1.4. | Abbreviations |

Part 1 Scope and Definitions

Section 1.1. General

1.1.1. Administration

1.1.1.1. Conformance with Administrative Requirements

(1) This Code shall be administered in conformance with the *Building Code Act, 1992*.

1.1.2. Scope

1.1.2.1. Application

(1) Reserved

1.1.3. Definitions of Words and Phrases

1.1.3.1. Non-defined Terms

(1) Definitions of words and phrases used in this Code that are not included in the list of definitions in this Part shall have the meanings which are commonly assigned to them in the context in which they are used in this Code, taking into account the specialized use of terms with the various trades and professions to which the terminology applies.

1.1.3.2. Defined Terms

(1) The words and terms in italics in this Code have the following meaning for the purposes of this Code, and where indicated, the following meaning for the purposes of the Act as well.

Accessible means when applied to a *fixture*, connection, *plumbing appliance*, valve, *cleanout* or equipment, having access thereto but which first may require the removal of an access panel, door or similar obstruction without the cutting or breaking of materials.

Access to exit means that part of a *means of egress* within a *floor area* that provides access to an *exit* serving the *floor area*.

Adfreezing means the adhesion of *soil* to a *foundation unit* resulting from the freezing of *soil water*.

Air barrier system means the assembly installed to provide a continuous barrier to the movement of air.

Air break means the unobstructed vertical distance between the lowest point of an *indirectly connected waste pipe* and the *flood level rim* of the *fixture* into which it discharges.

Air-conditioning is the process of treating air to control simultaneously its temperature, humidity, cleanliness, and distribution to meet the comfort requirements of the occupants of the conditioned space.

Air gap means the unobstructed vertical distance through air between the lowest point of a water supply outlet and the *flood level rim* of the *fixture* or device into which the outlet discharges.

Air-supported structure means a structure consisting of a pliable membrane which achieves and maintains its shape and support by internal air pressure.

Alarm signal means an audible signal transmitted throughout a zone or zones or throughout a *building* to advise occupants that a fire emergency exists.

Alert signal means an audible signal to advise designated persons of a fire emergency.

Allowable bearing pressure means the maximum pressure that may be safely applied to a *soil* or *rock* by the *foundation unit* considered in design under expected loading and subsurface conditions.

Allowable load means the maximum load that may be safely applied to a *foundation unit* considered in design under expected loading and subsurface conditions.

Alternative Measure means a substitute for a requirement of Part 3, 4, 5, 6, 7 or 9 of the Code or for a *compliance alternative*.

Appliance means a device to convert fuel into energy and includes all components, controls, wiring and piping required to be part of the device by the applicable standard referred to in this Code.

Applicable law means, for the purposes of Section 8 of the Act, any general or special Act, and all regulations and by-laws enacted thereunder, which prohibit the proposed *construction* or *demolition* of the *building* unless the Act, regulation or by-law is complied with.

Applicable law means, for the purposes of Clause 10(2)(a) of the Act, any general or special Act, and all regulations and by-laws enacted thereunder, which prohibit the proposed use of the *building* unless the Act, regulation or by-law is complied with.

Architect means, for the purposes of the Act and this Code, the holder of a licence, a certificate of practice or a temporary licence under the *Architects Act*.

Artesian groundwater means a confined body of water under pressure in the ground.

As constructed plans means, for the purposes of the Act and this Code, *construction* plans and specifications that show the *building* and the

location of the *building* on the property as the *building* has been constructed.

Assembly occupancy means the *occupancy* or the use of a *building*, or part thereof, by a gathering of persons for civic, political, travel, religious social, educational, recreational or like purposes, or for the consumption of food or drink.

Attic or roof space means the space between the roof and the ceiling of the top *storey* or between a dwarf wall and a sloping roof.

Backflow means a flowing back or reversal of the normal direction of the flow.

Backflow preventer means a device or a method that prevents *backflow* in a *water distribution system*.

Back-siphonage means *backflow* caused by a negative pressure in the supply system.

Back-siphonage preventer means a device or a method that prevents *back-siphonage* in a *water distribution system*.

Back vent means a pipe that is installed to vent a *trap* off the horizontal section of a *fixture* drain or the *vertical leg* of a water closet or other *fixture* that has an integral siphonic flushing action and "back vented" has a corresponding meaning.

Backwater valve means a *check valve* designed for use in a gravity *drainage system*.

Barrier-free means that a *building* and its facilities can be approached, entered, and used by persons with physical or sensory disabilities.

Basement means a *storey* or *storeys* of a *building* located below the *first storey*.

Bearing surface means the contact surface between a *foundation unit* and the *soil* or *rock* upon which it bears.

Boarding, lodging or rooming house means a *building* where,

- (a) *building height* does not exceed 3 *storeys* and *building area* does not exceed 600 m²,
- (b) lodging is provided for more than 4 persons in return for remuneration or for the provision of services or for both, and
- (c) lodging rooms do not have both bathrooms and kitchen facilities for the exclusive use of individual occupants.

Boiler means an *appliance* intended to supply hot water or steam for space heating, processing or power purposes.

Bottle trap means a *trap* that retains water in a closed chamber and that seals the water by submerging the inlet pipe in the liquids or by a partition submerged in the liquids.

Branch means a *soil* or *waste pipe* connected at its upstream end to the junction of 2 or more *soil* or *waste pipes* or to a *soil* or *waste stack*, and connected at its downstream end to another *branch*, a sump, a *soil* or *waste stack* or a *building drain*.

Branch vent means a *vent pipe* that is connected at its lower end to the junction of 2 or more *vent pipes* and is connected at its upper end either to a *stack vent*, *vent stack* or *header*, or is terminated in *open air*.

Breeching means a *flue pipe* or chamber for receiving *flue* gases from 1 or more *flue* connections and for discharging these gases through a single *flue* connection.

Building area means the greatest horizontal area of a *building* above *grade* within the outside surface of exterior walls or within the outside surface of exterior walls and the centre line of *firewalls*.

Building control valve means the valve on a *water system* that controls the flow of *potable* water from the *water service pipe* to the *water distribution system*.

Building drain means *sanitary building drain* or *storm building drain*.

Building height means the number of *storeys* contained between the roof and the floor of the *first storey*.

Building sewer means *sanitary building sewer* or *storm building sewer*.

Building trap means a *trap* that is installed in a *sanitary building drain* or *sanitary building sewer* to prevent circulation of air between a *sanitary drainage system* and a public sewer.

Business and personal services occupancy means the *occupancy* or use of a *building* or part thereof for the transaction of business or the rendering or receiving of professional or personal services.

Camp for housing of workers means a camp in which *buildings* or other structures or premises are used to accommodate 5 or more employees.

Campground means land or premises used as an overnight camping facility other than a *recreational camp*.

Canopy means a roof-like structure projecting more than 300 mm from the exterior face of the *building*.

Care and treatment occupancy (Group B, Division 2) means an *occupancy* in which persons receive special care and treatment.

Care occupancy (Group B, Division 3) means an *occupancy* in which persons receive special or supervisory care because of cognitive or physical limitations, but does not include a *dwelling unit*.

Care or detention occupancy means the *occupancy* or use of a *building* or part thereof by persons who,

- (a) are dependent on others to release security devices to permit egress,
- (b) receive special care and treatment, or
- (c) receive supervisory care.

Cavity wall means a construction of masonry units laid with a cavity between the wythes. The wythes are tied together with metal ties or bonding units and are relied on to act together in resisting lateral loads.

Check valve means a valve that permits flow in one direction but prevents a return flow.

Chimney means a primarily vertical shaft enclosing at least 1 *flue* for conducting *flue* gases to the outdoors.

Chimney liner means a conduit containing a *chimney flue* used as a lining of a *masonry* or *concrete chimney*.

Circuit vent means a *vent pipe* that functions for two or more *traps* connecting to a *horizontal branch* where the lower end of the *vent*

pipe connects to the waste pipe on the downstream side of the highest *fixture* of the group and the upper end connects to a *branch vent*, *vent stack*, *stack vent* or extends to *open air* independently and "circuit vented" has a corresponding meaning.

Cleanout means a fitting access in a *drainage system* or *venting system* that is installed to provide access for cleaning and inspection and that is provided with a readily replaceable air tight cover.

Clean water means water that has passed through a *recirculation system*.

Clear water waste means waste water containing no impurities or contaminants that are harmful to a person's health, plant or animal life or that impair the quality of the natural environment.

Closure means a device or assembly for closing an opening through a *fire separation* or an exterior wall, such as a door, a shutter, wired glass or glass block, and includes all components such as hardware, closing devices, frames and anchors.

Combustible means that a material fails to meet the acceptance criteria of CAN4-S114, "Standard Method of Test for Determination of Non-Combustibility in Building Materials."

Combustible construction means that type of construction that does not meet the requirements for *noncombustible construction*.

Compliance alternative means a substitute for a requirement in another Part of the Code that is listed in Part 10 or 11, and "C.A." has a corresponding meaning.

Computer room means a room containing electronic computer/data processing equipment such as main frame type, which is separated from the remainder of the *building* for the purpose of controlling the air quality in the room by a self-contained climate control system and in which the *occupant load* of the room is not more than one person for each 40 m² of the room.

Conditioned Space means any space within a *building* the temperature of which is controlled to limit variation in response to the exterior ambient temperature or interior differential temperatures by the provision, either directly or indirectly, of heating or cooling over substantial portions of the year.

Construction index means a level on a scale of 1 to 8 determined in accordance with Table 11.2.1.1.A. designating the expected *performance level* of the *building* structure with respect to the type of *construction* and fire protection of an existing *building*, and "C.I." has a corresponding meaning.

Contained use area means a supervised area containing one or more rooms in which occupant movement is restricted to a single room by security measures not under the control of the occupant.

Continuous waste and vent means a *vent pipe* that is a vertical extension of a vertical *waste pipe* and includes the vertical *waste pipe*.

Critical level means the level of submergence at which the *back-siphonage preventer* ceases to prevent *back-siphonage*.

Day camp means a camp or resort that admits persons for a continuous period not exceeding twenty-four hours.

Day nursery means a day nursery as defined in the *Day Nurseries Act*.

Dead end means a pipe that terminates with a closed fitting.

Dead load means the weight of all permanent structural and nonstructural components of a *building*.

Deep foundation means a *foundation unit* that provides support for a *building* by transferring loads either by end-bearing to a *soil* or *rock* at considerable depth below the *building*, or by adhesion or friction, or both, in the *soil* or *rock* in which it is placed. *Piles* are the most common type of *deep foundation*.

Design bearing pressure means the pressure applied by a *foundation unit* to a *soil* or *rock* and which is not greater than the *allowable bearing pressure*.

Designer means the person responsible for the design.

Design load means the load applied to a *foundation unit* and which is not greater than the *allowable load*.

Detention occupancy (Group B, Division 1) means an *occupancy* in which persons are under restraint or are incapable of self preservation because of security measures not under their control.

Developed length means the length along the centre line of the pipe and fittings.

Directly connected means physically connected in such a way that water or gas cannot escape from the connection.

Distributing pipe means a pipe or piping in a *water distribution system*.

Diving board means a flexible board.

Diving platform means a rigid platform that is not a *starting platform*.

Drainage system means an assembly of pipes, fittings, *fixtures* and appurtenances on the property that is used to convey *sewage* and *clear water waste* to a main sewer or a *private sewage disposal system*, and includes a *private sewer* but does not include *subsoil drainage piping* or piping that carries *storm sewage* from areas that are not part of a *building*.

Drum trap means a *trap* that has the inlet and outlet ends in the sides of the cylindrical body of the *trap*.

Dwelling unit means a *suite* operated as a housekeeping unit, used or intended to be used as a domicile by 1 or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities.

Electric space heating means an electric energy source that provides more than 10% of the heating capacity provided for the *building* and includes the following types:

- (a) electric resistance unitary baseboard heating,
- (b) electric resistance unitary cabinet heating,
- (c) electric resistance ceiling cable or floor cable heating,
- (d) electric resistance central furnace heating,
- (e) electric hot water space heating, or
- (f) air source heat pumps in combination with electric resistance backup heating.

Excavation means the space created by the removal of *soil*, *rock* or *fill* for the purposes of construction.

Exhaust duct means a duct through which air is conveyed from a room or space to the outdoors.

Exit means that part of a *means of egress*, including doorways, that leads from the *floor area* it serves, to a separate *building*, an open public thoroughfare, or an exterior open space protected from fire exposure from the *building* and having access to an open public thoroughfare.

Exit level means the level of an enclosed *exit* stair in a *building* governed by Subsection 3.2.6. at which an exterior *exit* door or *exit* corridor leads to the exterior.

Exit storey means a *storey* having an exterior *exit* door in a *building* governed by Subsection 3.2.6.

Exposing building face means that part of the exterior wall of a *building* which faces one direction and is located between ground level and the ceiling of its top *storey*, or where a *building* is divided into *fire compartments*, the exterior wall of a *fire compartment* which faces one direction.

Exterior cladding means those components of a *building* which are exposed to the outdoor environment and are intended to provide protection against wind, water or vapour.

Factory-built chimney means a *chimney* consisting entirely of factory-made parts, each designed to be assembled with the other without requiring fabrication on site.

Farm building means a *building* or part thereof which does not contain a *residential occupancy* and which is associated with and located on land devoted to the practice of farming and used essentially for the housing of equipment or livestock, or the production, storage or processing of agricultural and horticultural produce or feeds.

Fill means *soil*, *rock*, rubble, industrial waste such as slag, organic material or a combination of these that is transported and placed on the natural surface of a *soil* or *rock* or organic terrain. It may or may not be compacted.

Fire compartment means an enclosed space in a *building* that is separated from all other parts of the *building* by enclosing construction providing a *fire separation* that may be required to have a *fire-resistance rating*.

Fire damper means a *closure* which consists of a normally held open damper installed in an air distribution system or in a wall or floor assembly, and designed to close automatically in the event of a fire in order to maintain the integrity of the *fire separation*.

Fire detector means a device which detects a fire condition and automatically initiates an electrical signal to actuate an *alert signal* or *alarm signal* and includes *heat detectors* and *smoke detectors*.

Fire load means the *combustible* contents of a room or *floor area* expressed in terms of the average weight of *combustible* materials per unit area, from which the potential heat liberation may be calculated based on the calorific value of the materials, and includes the furnishings, finished floor, wall and ceiling finishes, trim and temporary and movable *partitions*.

Fire-protection rating means the time in hours or fraction thereof that a *closure* will withstand the passage of flame when exposed to fire under specified conditions of test and performance criteria, or as otherwise prescribed in this Code.

Fire-resistance rating means the time in hours or fraction thereof that a material or assembly of materials will withstand the passage of flame and the transmission of heat when exposed to fire under specified conditions of test and performance criteria, or as determined by extension or interpretation of information derived therefrom as prescribed in this Code.

Fire-retardant treated wood means wood or a wood product that has had its surface-burning characteristics, such as flame spread, rate of fuel contribution and density of smoke developed, reduced by impregnation with fire-retardant chemicals.

Fire separation means a construction assembly that acts as a barrier against the spread of fire.

Fire service main means a pipe and its appurtenances which are connected to a *water works* or a *private water supply system* and are located on the property:

- (a) between the source of water and the base of the riser of a water-based fire protection system,
- (b) between the source of water and inlets to foam making systems,
- (c) between the source of water and the base elbow of private hydrants or monitor nozzles,
- (d) used as fire pump suction and discharge piping not within a *building*, or
- (e) beginning at the inlet side of the check valve on a gravity or pressure tank.

Fire stop flap means a device intended for use in horizontal assemblies required to have a *fire-resistance rating* and incorporating protective ceiling membranes, which operates to close off a duct opening through the membrane in the event of a fire.

Firewall means a type of *fire separation* of *noncombustible construction* which subdivides a *building* or separates adjoining *buildings* to resist the spread of fire and which has a *fire-resistance rating* as prescribed in this Code and has structural stability to remain intact under fire conditions for the required fire-rated time.

First storey means the *storey* with its floor closest to *grade* and having its ceiling more than 1.8 m above *grade*.

Fixture means a receptacle, *plumbing appliance*, apparatus or other device that discharges *sewage* or *clear water waste*, and includes a floor drain.

Fixture drain means the pipe that connects a *trap* serving a *fixture* to another part of a *drainage system*.

Fixture outlet pipe means a pipe that connects the waste opening of a *fixture* to the *trap* serving the *fixture*.

Fixture unit (as applying to *drainage systems*) means the unit of measure based on the rate of discharge, time of operation and frequency of use of a *fixture* that expresses the hydraulic load that is imposed by that *fixture* on the *drainage system*.

Fixture unit (as applying to *water distribution systems*) means the unit of measure based on the rate of supply, time of operation and frequency of use of a *fixture* or outlet that expresses the hydraulic load that is imposed by that *fixture* or outlet on the supply system.

Flame-spread rating means an index or classification indicating the extent of spread-of-flame on the surface of a material or an assembly of materials as determined in a standard fire test as prescribed in this Code.

Flood level rim means the top edge at which water can overflow from a *fixture* or device.

Floor area means the space on any *storey* of a *building* between exterior walls and required *firewalls* including the space occupied by interior walls and *partitions*, but not including *exits*, *vertical service spaces*, and their enclosing assemblies.

Flue means an enclosed passageway for conveying *flue* gases.

Flue collar means the portion of a fuel-fired *appliance* designed for the attachment of the *flue pipe* or *breeching*.

Flue pipe means the pipe connecting the *flue collar* of an *appliance* to a *chimney*.

Forced-air furnace means a *furnace* equipped with a fan that provides the primary means for the circulation of air.

Force main means a *sanitary drainage pipe* through which *sanitary sewage* is conveyed by mechanical or pneumatic propulsion.

Foundation means a system or arrangement of *foundation units* through which the loads from a *building* are transferred to supporting *soil* or *rock*.

Foundation unit means one of the structural members of the *foundation* of a *building* such as a footing, raft or *pile*.

Fresh air inlet means a *vent pipe* that is installed in conjunction with a *building trap* and terminates in *open air*.

Frost action means the phenomenon that occurs when water in *soil* is subjected to freezing which, because of the water ice phase change or ice lens growth, results in a total volume increase or the build-up of expansive forces under confined conditions or both, and the subsequent thawing that leads to loss of *soil* strength and increased compressibility.

Furnace means a *space-heating appliance* using warm air as the heating medium and usually having provision for the attachment of ducts.

Gas vent means that portion of a venting system designed to convey vent gases to the outdoors from the *vent connector* of a gas-fired *appliance* or directly from the *appliance* when a *vent connector* is not used.

Grade means the average level of proposed or finished ground adjoining a *building* at all exterior walls.

Graded lumber means lumber which has been graded and stamped to indicate its grade as determined by the NLGA "Standard Grading Rules for Canadian Lumber".

Gross area means the total area of all floors above *grade* measured between the outside surfaces of exterior walls or between the outside surfaces of exterior walls and the centre line of *firewalls* except that, in any other *occupancy* than a *residential occupancy*, where an access or a *building* service penetrates a *firewall*, measurements shall not be taken to the centre line of such *firewall*.

Groundwater means a free standing body of water in the ground.

Groundwater level means the top surface of a free standing body of water in the ground.

Guard means a protective barrier around openings in floors or at the open sides of stairs, landings, balconies, *mezzanines*, galleries, raised *walkways* or other locations to prevent accidental falls from one level to another. Such barrier may or may not have openings through it.

Hazard index means a level on a scale of 1 to 8 determined in accordance with Tables 11.2.1.1.B. to 11.2.1.1.N. designating the life safety hazard to occupants of the *building* based on,

(a) use and *occupancy*,

(b) *occupant load*,

(c) the use and function of floor spaces,

(d) the difficulty of egress,

(e) the fire load of contents, finishes and furnishings,

(f) the configuration or compartmentation of floor spaces, and

(g) the size of *building*,

and "H.I." has a corresponding meaning.

Hazardous classroom means a classroom supplied with flammable gas, containing hazardous substances such as chemicals or explosive dusts, containing large quantities of *combustible* materials or where cooking equipment is used.

Hazardous room means a room containing sufficient quantities of a substance which because of its chemical nature may create an atmosphere or condition of imminent hazard to health.

Header means a *vent pipe* that connects two or more *vent stacks* or *stack vents* to *open air*.

Heat detector means a *fire detector* designed to operate at a predetermined temperature or rate of temperature rise.

Heavy timber construction means that type of *combustible construction* in which a degree of fire safety is attained by placing limitations on the sizes of wood structural members and on thickness and composition of wood floors and roofs and by the avoidance of concealed spaces under floors and roofs.

Heritage building means a *building* designated under the *Ontario Heritage Act*, or a *building* that is certified to be of significant architectural or historical value by a recognized, non-profit public organization whose primary object is the preservation of structures of architectural or historical significance and which certification is accepted by the *chief building official*.

High hazard industrial occupancy (Group F, Division 1) means an *industrial occupancy* containing sufficient quantities of highly *combustible* and flammable or explosive materials which, because of their inherent characteristics, constitute a special fire hazard.

Home for special care means a home for the care of persons requiring nursing, residential or sheltered care.

Horizontal branch means that part of a *waste pipe* that is horizontal and installed to convey the discharge from more than one *fixture*.

Horizontal exit means an *exit* from one *building* to another by means of a doorway, vestibule, *walkway*, bridge or balcony.

Horizontal service space means a space such as an attic, duct, ceiling, roof or crawl space oriented essentially in a horizontal plane, concealed and generally inaccessible, through which *building* service facilities such as pipes, ducts and wiring may pass.

Hotel means *floor areas*, a *floor area* or part of a *floor area* containing 4 or more *suites* which provide sleeping accommodation for the travelling public or for recreational purposes.

Hub drain means a drain opening for indirect liquid wastes that does not serve as a floor drain, that has the same pipe *size*, material and venting requirements as a floor drain and that has a *flood level rim* above the floor in which it is installed and receives wastes that are discharged directly into the drain opening.

Impeded egress zone means a supervised area in which occupants have free movement but require the release, by security personnel, of security doors at the boundary before they are able to leave the area, but does not include a *contained use area*.

Indirect service water heater means a *service water heater* that derives its heat from a heating medium such as warm air, steam or hot water.

Indirectly connected means not directly connected.

Indoor pool means a *public pool* where the pool and *pool deck* are totally or partially covered by a roof.

Industrial occupancy means the *occupancy* or use of a *building* or part thereof for the assembling, fabricating, manufacturing, processing, repairing or storing of goods and materials.

Interceptor means a receptacle that is designed and installed to prevent oil, grease, sand or other materials from passing into a *drainage system*.

Interconnected floor space means superimposed *floor areas* or parts of *floor areas* in which floor assemblies that are required to be *fire separations* are penetrated by openings that are not provided with *closures*.

Leader means a pipe that is installed to carry storm water from a roof to a *storm building drain* or sewer or other place of disposal.

Limiting distance means the distance from an *exposing building face* to a property line, the centre line of a *street*, lane or public thoroughfare, or to an imaginary line between 2 *buildings* or *fire compartments* on the same property, measured at right angles to the *exposing building face*.

Listed means equipment or materials included in a list published by a certification organization accredited by the Standards Council of Canada.

Live load means the load other than *dead load* to be assumed in the design of the structural members of a *building*. It includes loads resulting from snow, rain, wind, earthquake and those due to *occupancy*.

Live/work unit means a *dwelling unit* that contains a subsidiary *business and personal services occupancy* or a subsidiary *low hazard industrial occupancy*, has an area of not more than 150 m², and is used and operated by one or more persons of a single household.

Loadbearing as applying to a *building element* means subjected to or designed to carry loads in addition to its own *dead load*, excepting a wall element subjected only to wind or earthquake loads in addition to its own *dead load*.

Low hazard industrial occupancy (Group F, Division 3) means an *industrial occupancy* in which the *combustible* content is not more than 50 kg/m² or 1200 MJ/m² of *floor area*.

Low human occupancy (as applying to *farm buildings*) means an *occupancy* having an *occupant load* of not more than one person per 40 m² of *floor area* during normal use.

Major occupancy means the principal *occupancy* for which a *building* or part thereof is used or intended to be used, and shall be deemed to include the subsidiary *occupancies* which are an integral part of the principal *occupancy*.

Make-up water means water added to a *public pool* from an external source.

Marquee means a *canopy* over an entrance to a *building*.

Masonry or concrete chimney means a *chimney* of brick, stone, concrete or masonry units constructed on site.

Means of egress means a continuous path of travel provided for the escape of persons from any point in a *building* or contained open space to a separate *building*, an open public thoroughfare, or an exterior open space protected from fire exposure from the *building* and having access to an open public thoroughfare. *Means of egress* includes *exits* and *access to exits*.

Medium hazard industrial occupancy (Group F, Division 2) means an *industrial occupancy* in which the *combustible* content is more than 50 kg/m² or 1200 MJ/m² of *floor area* and not classified as *high hazard industrial occupancy*.

Mercantile occupancy means the *occupancy* or use of a *building* or part thereof for the displaying or selling of retail goods, wares or merchandise.

Mezzanine means an intermediate floor assembly between the floor and ceiling of any room or *storey* and includes an interior balcony.

Modified pool means a *public pool* that has a basin-shaped floor sloping downward and inward toward the interior from the rim.

Modified stack venting means a *stack venting* arrangement where the *stack vent* above the connection of the highest *stack vented fixture* is reduced in diameter.

Nominally horizontal means at an angle of less than 45° with the horizontal.

Nominally vertical means at an angle of not more than 45° with the vertical.

Noncombustible means that a material meets the acceptance criteria of CAN4-S114, "Standard Method of Test for Determination of Non-Combustibility in Building Materials".

Noncombustible construction means that type of construction in which a degree of fire safety is attained by the use of *noncombustible* materials for structural members and other building assemblies.

Occupancy means the use or intended use of a *building* or part thereof for the shelter or support of persons, animals or property.

Occupant load means the number of persons for which *building* or part thereof is designed.

Offset means the piping that connects the ends of 2 pipes that are parallel.

Open air means the atmosphere outside a *building*.

Open-air storey means a *storey* in which at least 25 per cent of the total area of its perimeter walls is open to the outdoors in a manner that will provide cross ventilation to the entire *storey*.

Outdoor pool means a *public pool* that is not an *indoor pool*.

Partition means an interior wall 1 *storey* or part-*storey* in height that is not *loadbearing*.

Party wall means a wall jointly owned and jointly used by 2 parties under easement agreement or by right in law, and erected at or upon a line separating 2 parcels of land each of which is, or is capable of being, a separate real-estate entity.

Perched groundwater means a free standing body of water in the ground extending to a limited depth.

Performance level means that level of performance under which all or part of an existing *building* functions with respect to its *building systems*.

Pharmacy means a premises or the part of a premises in which prescriptions are compounded and dispensed for the public or in which drugs are sold by retail.

Pile means a slender *deep foundation unit*, made of materials such as wood, steel or concrete or combination thereof, which is either premanufactured and placed by driving, jacking, jetting or screwing, or cast-in-place in a hole formed by driving, excavating or boring.

Plenum means a chamber forming part of an air duct system.

Plumbing appliance means a receptacle or equipment that receives or collects water, liquids or *sewage* and discharges water, liquid or *sewage* directly or indirectly to a *plumbing system*.

Plumbing system means a system of connected piping, fittings, valves, equipment, *fixtures* and appurtenances contained in *plumbing*.

Pool deck means the area immediately surrounding a *public pool*.

Post-disaster building means a *building* essential to provide services in the event of a disaster, and includes hospitals, fire stations, police stations, radio stations, telephone exchanges, power stations, electrical substations, water and sewage pumping stations and fuel depot *buildings*.

Potable means fit for human consumption.

Potable water system means the *plumbing* that conveys *potable water*.

Private sewage disposal system means a sewage works or a *sewage system* requiring a Certificate of Approval under the *Ontario Water Resources Act* or the *Environmental Protection Act*, and which is not owned and operated by the Crown, a municipality or an organization acceptable to the Director responsible for issuing the Certificate of Approval.

Private sewer means a sewer other than a *building sewer* that,

- (a) is not owned or operated by a municipality, the Ministry of Environment or other public agency,
- (b) receives drainage from more than one *sanitary building drain* either directly or through more than one *sanitary building sewer* or receives drainage from more than one *storm building drain* either directly or through one or more *storm building sewers*, and connects to a main sewer, or
- (c) serves as a place of disposal on the property,
but does not include:
 - (d) a sewer that carries only the sanitary waste or *storm sewage* from two semi-detached dwelling units,
 - (e) a sewer that carries only the sanitary waste or *storm sewage* from one main *building* that is of *industrial*, commercial or *institutional occupancy* and one ancillary *building*, or
 - (f) a sewer that carries only the sanitary waste or *storm sewage* from a row housing complex having five or fewer single family residences.

Private water supply means piping that serves as a source of supply on the property to more than one *water service pipe*.

Private water supply system means an assembly of pipes, fittings, valves, equipment and appurtenances that supplies water from a private source to a *potable water system*.

Professional engineer means, for the purposes of the Act and this Code, a person who holds a licence or a temporary licence under the *Professional Engineers Act*.

Public corridor means a corridor that provides *access to exit* from more than 1 *suite*.

Public heritage building means a *heritage building* where *occupancy* in whole or in part includes viewing thereof by the public provided that displays therein are limited to those relevant to the heritage significance of the *building*.

Public pool means a structure, basin, chamber or tank containing or intended to contain an artificial body of water for swimming, water sport, water recreation or entertainment but does not include,

- (a) pools operated in conjunction with less than six *dwelling units*, *suites* or single family residences or any combination thereof,
- (b) pools that are used only for commercial display and demonstration purposes,
- (c) wading pools,
- (d) hydro-massage pools, or
- (e) pools that serve only as receiving basins for persons at the bottom of water slides.

Public use (as applying to the classification of *plumbing fixtures*) means *fixtures* in general washrooms of schools, gymnasiums, hotels, bars, public comfort stations and other installations where *fixtures* are installed so that their use is unrestricted.

Public way means a sidewalk, *street*, highway, square or other open space to which the public has access, as of right or by invitation, expressed or implied.

Range means a cooking *appliance* equipped with a cooking surface and 1 or more ovens.

Recirculation system means a system that maintains circulation of water through a *public pool* by pumps, and that provides continuous treatment that includes filtration and chlorination or bromination and any other process that may be necessary for the treatment of the water.

Recreational camp means a camp for recreational activities consisting of 1 or more *buildings* or other structures, established or maintained as living quarters with or without charge for 10 or more persons, for temporary occupancy of 5 or more days.

Relief vent means a *vent pipe* that connects at the upper end to a *vent stack* and connects at the lower end to a *horizontal branch* between the first *fixture* connection and the *soil stack* or *waste stack*.

Repair for the purposes of s.15 (5) (b) of the Act includes taking any actions that the *chief building official* considers necessary for the protection of the public.

Repair garage means a *building* or part thereof where facilities are provided for the repair or servicing of motor vehicles.

Residential occupancy means the *occupancy* or use of a *building* or part thereof by persons for whom sleeping accommodation is provided but who are not harboured or detained to receive medical care or treatment or are not involuntarily detained.

Return duct means a duct for conveying air from a space being heated, ventilated or air-conditioned back to the heating, ventilating or air-conditioning appliance.

Riser means a water distributing pipe that extends through at least one full storey (as defined in Part 7 of this Code).

Rock means that portion of the earth's crust which is consolidated, coherent and relatively hard and is a naturally formed, solidly bonded, mass of mineral matter which cannot readily be broken by hand.

Roof drain means a fitting or device that is installed in the roof to permit storm sewage to discharge into a leader.

Roof gutter means an exterior channel installed at the base of a sloped roof to convey storm sewage.

Sanitary building drain means a building drain that conducts sewage and connects to the sanitary building sewer.

Sanitary building sewer means a pipe that is connected to a sanitary building drain 1 000 mm outside a wall of a building and that conducts sewage to a public sewer or private sewage disposal system.

Sanitary drainage pipe means all piping that conveys sanitary sewage to a place of disposal, including the sanitary building drain, sanitary building sewer, soil pipe, soil stack, waste stack and waste pipe but not the main sewer or piping in a sewage treatment plant.

Sanitary drainage system means a drainage system that conducts sanitary sewage.

Sanitary sewage means liquid or water borne waste,

(a) of industrial or commercial origin, or

(b) of domestic origin, including human body waste, toilet or other bathroom waste, and shower, tub, culinary, sink and laundry waste.

Sanitary sewer means a sewer that conducts sewage.

Sanitary unit means a water closet, urinal, bidet or bedpan washer.

Self-service storage building means a building that is used to provide individual storage spaces to the public and that is open to the public only for those purposes.

Service room means a room provided in a building to contain equipment associated with building services.

Service space means space provided in a building to facilitate or conceal the installation of building service facilities such as chutes, ducts, pipes, shafts or wires.

Service water heater means a device for heating water for plumbing services.

Sewage means sanitary sewage or storm sewage.

Sewage system means a sewage system as defined in Part VIII of the *Environmental Protection Act*.

Shallow foundation means a foundation unit which derives its support from soil or rock located close to the lowest part of the building which it supports.

Size means the nominal diameter by which a pipe, fitting, trap or other similar item is commercially designated.

Smoke alarm means a combined smoke detector and audible alarm device designed to sound an alarm within the room or suite in which it is located upon the detection of smoke within that room or suite.

Smoke detector means a fire detector designed to operate when the concentration of airborne combustion products exceeds a pre-determined level.

Soil means that portion of the earth's crust which is fragmentary, or such that some individual particles of a dried sample may be readily separated by agitation in water; it includes boulders, cobbles, gravel, sand, silt, clay and organic matter.

Soil pipe means a sanitary drainage pipe that carries the discharge of a sanitary unit with or without the discharge from any other fixture.

Soil stack means a vertical soil pipe that passes through one or more storeys and includes any offset that is part of the stack.

Space heater means a space-heating appliance for heating the room or space within which it is located, without the use of ducts.

Space-heating appliance means an appliance intended for the supplying of heat to a room or space directly, such as a space heater, fireplace or unit heater, or to rooms or spaces of a building through a heating system such as a central furnace or boiler.

Sprinklered means equipped with a system of automatic sprinklers.

Stack vent means a vent pipe that connects the top of a soil or waste stack to a header or open air and "stack vented" has a corresponding meaning.

Stack venting when used with reference to fixtures means an arrangement such that the connections of the drainage piping from the stack vented fixtures to the stack provide venting to the fixture traps so that no additional vent pipe is required.

Stage means a space designed primarily for theatrical performances with provision for quick change scenery and overhead lighting, including environmental control for a wide range of lighting and sound effects and which is traditionally, but not necessarily, separated from the audience by a proscenium wall and curtain opening.

Starting platform means a rigid platform located entirely on the pool deck consisting of a top which, if projected horizontally over the water surface, would be less than 1 000 mm in vertical height above the surface and that is designed to be used by a swimmer to dive from at the start of a swimming race.

Storage garage means a building or part thereof intended for the storage or parking of motor vehicles and which contains no provision for the repair or servicing of such vehicles.

Storage-type service water heater means a service water heater with an integral hot water storage tank.

Storey means that portion of a building which is situated between the top of any floor and the top of the floor next above it, and if there is no floor above it, that portion between the top of such floor and the ceiling above it.

Storm building drain means a building drain that conveys storm sewage to a storm building sewer.

Storm building sewer means a building sewer that conveys storm sewage to a place of disposal and commences 1 000 mm from the building.

Storm drainage pipe means all the connected piping that conveys *storm sewage* to a place of disposal and includes the *storm building drain*, *storm building sewer*, rain water *leader* catch basin and area drain installed to collect water from the property and the piping that drains water from a swimming pool or from water cooled air conditioning equipment, but does not include

- (a) a main *storm sewer*,
- (b) a *subsoil drainage pipe*, or
- (c) a private sewage treatment and disposal facility designed for the treatment or retention of storm sewage prior to discharge to the natural environment.

Storm drainage system means a *drainage system* that conveys *storm sewage*.

Storm sewage means water that is discharged from a surface as a result of rainfall, snow melt or snowfall.

Storm sewer means a sewer that conveys *storm sewage*.

Stove means an *appliance* intended for cooking and space heating.

Street means any highway, road, boulevard, square or other improved thoroughfare 9 m or more in width, which has been dedicated or deeded for public use, and is accessible to fire department vehicles and equipment.

Subsoil drainage pipe means a pipe that is installed underground to intercept and convey subsurface water, and includes foundation drain pipes.

Subsurface investigation means the appraisal of the general subsurface conditions at a *building site* by analysis of information gained by such methods as geological surveys, in situ testing, sampling, visual inspection, laboratory testing of samples of the subsurface materials and *groundwater* observations and measurements.

Suite means a single room or series of rooms of complementary use, operated under a single tenancy, and includes *dwelling units*, individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories as well as individual stores and individual or complementary rooms for *business and personal services occupancies*.

Supply duct means a duct for conveying air from a heating, ventilating or *air-conditioning appliance* to a space to be heated, ventilated or air-conditioned.

Theatre means a place of public assembly intended for the production and viewing of the performing arts or the screening and viewing of motion pictures, and consisting of an auditorium with permanently fixed seats intended solely for a viewing audience.

Trap means a fitting or device that is designed to hold a liquid seal that will prevent the passage of gas but will not materially affect the flow of a liquid.

Trap dip means the lowest part of the upper interior surface of a *trap*.

Trap seal depth means the vertical distance between the *trap dip* and the *trap weir*.

Trap standard means the *trap* for a *fixture* that is integral with the support for the *fixture*.

Trap weir means the highest part of the lower interior surface of a *trap*.

Ungraded lumber means lumber which has not been grade stamped to indicate its grade as determined by the NLGA "Standard Grading Rules for Canadian Lumber" but which meets the following visual attributes:

- (a) it is rough sawn to full nominal size,
- (b) it has no evidence of decay,
- (c) it has no tight knots which exceed 25 per cent of the cross section and which are spaced closer than 150 mm on centres,
- (d) it has no loose knots or holes which exceed 25 per cent of the cross section and which are spaced closer than 600 mm on centres,
- (e) it has the slope of grain not exceeding 1 (vertical) in 4 (horizontal), and
- (f) it is free of excessive warp.

Unit heater means a suspended *space heater* with an integral air circulating fan.

Unprotected opening as applying to exposing building face means a doorway, window or opening other than one equipped with a *closure* having the required *fire-protection rating*, or any part of a wall forming part of the *exposing building face* that has a *fire-resistance rating* less than required for the *exposing building face*.

Vacuum breaker means *back-siphonage preventer*.

Vapour barrier means the elements installed to control the diffusion of water vapour.

Vent connector as applying to heating or cooling systems means the part of a venting system that conducts the *flue* gases or vent gases from the *flue collar* of a gas *appliance* to the *chimney* or *gas vent*, and may include a draft control device.

Vent pipe means a pipe that is part of a *venting system*.

Vent stack means a *vent pipe* that is connected at its upper end to a *header* or is terminated in *open air* and that is used to limit pressure differential in a *soil* or *waste stack*.

Venting system means an assembly of pipes and fittings that connects a *drainage system* with *open air* for circulation of air and the protection of *trap seals* in the *drainage system*.

Vertical leg means the vertical portion of a *fixture* drain and includes the portion of a drain from the outlet of a water closet bowl to the point where the connecting piping changes to horizontal.

Vertical service space means a shaft oriented essentially vertically that is provided in a *building* to facilitate the installation of building services including mechanical, electrical and plumbing installations and facilities such as elevators, refuse chutes and linen chutes.

Walkway means a covered or roofed pedestrian thoroughfare used to connect 2 or more *buildings*.

Waste pipe means a *sanitary drainage pipe* that carries the discharge from a *fixture* directly to a *waste stack*, *soil stack*, *sanitary building drain*, *branch* or *sewage system*.

Waste stack means a vertical *waste pipe* that passes through one or more *storeys* and includes any offset that is part of the stack that conducts liquid waste from *fixtures* other than *sanitary units*.

Water distribution system means an assembly of pipes, fittings, valves and appurtenances that conveys water from the *water service pipe* or

private water supply system to water supply outlets, fixtures, plumbing appliances and devices.

Water purveyor means the owner or operator of a water works.

Water service pipe means a pipe on the property that conveys potable water from a water works or private water source to the inside of the building.

Water system means a private water supply system, a water service pipe, a water distribution system, a fire service main or parts thereof, but does not include equipment or the facilities for the treatment of water which are subject to the *Ontario Water Resources Act*.

Water works means water works as defined in the *Ontario Water Resources Act*.

Wave action pool means a public pool equipped with a means for inducing wave motion in the water.

Wet vent means a waste pipe that also serves as a vent pipe.

X-ray equipment includes x-ray imaging systems, processing equipment and equipment directly related to the production of images for diagnosis or directly related to irradiation with x-rays for therapy.

X-ray machine means an electrically-powered device producing x-rays for the irradiation of a human being or an animal for a therapeutic or diagnostic purpose or for industrial use.

Yoke vent means a vent pipe that is connected at its lower end to a soil or waste stack and at its upper end to a vent stack or a branch vent that is connected to a vent stack.

1.1.4. Abbreviations

1.1.4.1. Abbreviations of Proper Names

(1) The abbreviations of proper names in this Code shall have the meanings assigned to them in this Article. The appropriate addresses are shown in brackets following the name.

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| ACI | American Concrete Institute (38800 Country Club Drive, Farmington Hills, Michigan 48331 U.S.A.) |
| ACNBC | Associate Committee on the National Building Code (National Research Council of Canada, Ottawa, Ontario K1A 0R6) |
| ANSI | American National Standards Institute (11 W. 42nd St., New York, New York 10036 U.S.A.) |
| ASHRAE | American Society of Heating, Refrigerating and Air-Conditioning Engineers (1791 Tullie Circle N.E., Atlanta, Georgia 30329-2305 U.S.A.) |
| ASPE | American Society of Plumbing Engineers (3617 Thousand Oaks Blvd., Suite 210, Westlake, California 91362 U.S.A.) |
| ASTM | American Society for Testing and Materials (1916 Race Street, Philadelphia, Pennsylvania 19103-1187 U.S.A.) |
| AWWA | American Water Works Association (45 23rd. Street, Toronto, Ontario M8V 3M6) |
| BRMD | Bureau of Radiation and Medical Devices (Department of National Health and Welfare 775 Brookefield Road, Ottawa, Ontario K1A 1C1) |

| | |
|------------------|---|
| CAN | National Standard of Canada designation (The number or name following the CAN designation represents the agency under whose auspices the standard is issued. CAN1 designates CGA, CAN2 designates CGSB, CAN3 designates CSA, and CAN4 designates ULC.) |
| CGA | Canadian Gas Association (178 Rexdale Boulevard, Rexdale, Ontario M9W 1R3) |
| CGSB | Canadian General Standards Board (11 Laurier St. Hull, Ottawa, Ontario K1A 0S5) |
| CLA | Canadian Lumbermen's Association (27 Goulburn Avenue, Ottawa, Ontario K1N 8C7) |
| CSA | Canadian Standards Association (178 Rexdale Boulevard, Rexdale, Ontario M9W 1R3) |
| DBR | Division of Building Research (now called the Institute for Research in Construction) National Research Council of Canada, Ottawa, Ontario K1A 0R6 |
| FINA | Federation Internationale de Natation Amateur (208-3540 West 41st Avenue, Vancouver, British Columbia V6N 2G8) |
| HI | Hydronics Institute (35 Russo Place, P.O. Box 218, Berkeley Heights, New Jersey 07922 U.S.A.) |
| HRAI | Heating, Refrigerating and Air-Conditioning Institute of Canada (5045 Orbitor Drive, Building 11, Suite 300, Mississauga, Ontario L4W 4Y4) |
| HUD | U.S. Department of Housing and Urban Development (Office of the Assistant Secretary for Policy Development and Research, Washington, D.C. 20410 U.S.A.) |
| MOEE | Ontario Ministry of the Environment and Energy (135 St Clair Avenue West, Toronto, Ontario M4V 1P5) |
| NBC | National Building Code of Canada (National Research Council of Canada, Ottawa, Ontario K1A 0R6) |
| NFPA | National Fire Protection Association (1 Batterymarch Park, P.O. Box 9101, Quincy, Massachusetts 02269-9101 U.S.A.) |
| NLGA | National Lumber Grades Authority (103-4400 Dominion Street, Burnaby, British Columbia V5G 4G3) |
| SMACNA | Sheet Metal and Air Conditioning Contractors National Association Inc. (4201 Lafayette Centre Drive, Chantilly, Virginia 20151 U.S.A.) |
| ULC | Underwriters' Laboratories of Canada (7 Crouse Road, Scarborough, Ontario M1R 3A9) |
| WCLIB | West Coast Lumber Inspection Bureau (6980 Southwest Varns Street, P.O. Box 23145, Portland, Oregon 97223 U.S.A.) |
| WH | Warnock Hersey Professional Services Ltd. (3210 American Drive, Mississauga, Ontario L4V 1B3) |
| WWPA | Western Wood Products Association (1500 Yeon Building, Portland, Oregon 97204 U.S.A.) |

1.1.4.2. Symbols and Other Abbreviations

(1) The symbols and other abbreviations in this Code shall have the meanings assigned to them in this Article.

| | |
|------------------|-------------------------------------|
| 1 in 2 | slope of 1 vertical to 2 horizontal |
| ABS | acrylonitrile-butadiene-styrene |
| cm | centimetre(s) |

| | |
|-------------------------|--|
| cm ² | square centimetre(s) |
| CPVC | chlorinated poly (vinyl chloride) |
| dB(A) | decibel-weighted sound level |
| ° | degree(s) |
| °C | degree(s) Celsius |
| diam | diameter |
| DWV | drain, waste and vent |
| g | gram(s) |
| ga | gauge |
| gal | imperial gallon(s) |
| gal/min | imperial gallon(s) per minute |
| h | hour(s) |
| HVAC | Heating, Ventilating and Air-conditioning |
| Hz | hertz |
| in | inch(es) |
| inc. | Incorporated |
| J | joule(s) |
| kg | kilogram(s) |
| kg/m ² | kilograms per square metre |
| kN | kilonewton(s) |
| kPa | kilopascal(s) |
| kW | kilowatt(s) |
| L | litre(s) |
| L/s | litre(s) per second |
| lx | lux |
| m | metre(s) |
| m ² | square metre(s) |
| m/s | metre(s) per second |
| max. | maximum |
| mg/L | milligram(s) per litre |
| min. | minimum |
| min | minute(s) |
| MJ | megajoule(s) |
| mm | millimetre(s) |
| MPa | megapascal(s) |
| N | newton |
| N/A | not applicable |
| ng | nanogram(s) |
| No. | number(s) |
| nom. | nominal |
| o.c. | on centre |
| OSB | oriented strandboard |
| Pa | pascal(s) |
| PB | polybutylene |
| PE | polyethylene |
| PE/AL/PE | Polyethylene/Aluminum/Polyethylene |
| PEX | cross-linked polyethylene |
| PEX/AL/PEX | Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene |
| PVC | poly (vinyl chloride) |
| RSI | thermal resistance, International System of Units |
| s | second(s) |
| SDR | standard dimension ratio |
| temp. | temperature |
| T&G | tongue and groove |
| W | watt(s) |
| wt | weight |
| % | per cent |

Part 2

General Requirements

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Part 2

General Requirement

Section 2.1. Application

2.1.1. Buildings

2.1.1.1. Parts 1, 2, 7 and 12

(1) Parts 1, 2, 7 and 12 apply to all *buildings*.

2.1.1.2. Parts 3, 4, 5 and 6

(1) Except as provided in Article 2.1.1.5., Sentence 2.1.1.6.(1) and Subsection 2.1.2., Parts 3, 4, 5 and 6 apply to all *buildings* occupying an area greater than ten square meters and

(a) used for

(i) Group A, *assembly occupancies*,

(ii) Group B, *institutional occupancies*, or

- (iii) Group F, Division 1, *high hazard industrial occupancies*, and
- (b) exceeding 600 m² in *building area* or exceeding 3 *storeys* in *building height* used for *major occupancies* classified as
 - (i) Group C, *residential occupancies*,
 - (ii) Group D, *business and personal services occupancies*,
 - (iii) Group E, *mercantile occupancies*, or
 - (iv) Group F, Division 2 and 3, *medium and low hazard industrial occupancies*.

2.1.1.3. Part 9

(1) Except as provided in Sentences 2.1.1.4.(2), 2.1.1.6.(1) and Article 2.1.1.5., Part 9 applies to *buildings* occupying an area greater than ten square metres

- (a) of 3 *storeys* or less in *building height*,
- (b) having a *building area* not exceeding 600 m², and
- (c) used for:
 - (i) Group C, *residential occupancies*,
 - (ii) Group D, *business and personal services occupancies*,
 - (iii) Group E, *mercantile occupancies*, or
 - (iv) Group F, Division 2 and 3, *medium and low hazard industrial occupancies*.

2.1.1.4. Site Assembled and Factory-Built Buildings

(1) Except as provided in Sentence (2) and Article 2.1.1.7., this Code applies to the design and *construction* of site assembled *buildings* and manufactured *buildings*.

(2) Except as provided in Sentence (3), a manufactured *building* intended for *residential occupancy* is deemed to comply with this Code if it is designed and constructed in compliance with

- (a) CAN/CSA-Z240.2.1., "Structural Requirements for Mobile Homes", CAN/CSA-Z240.8.1., "Light Duty Windows" and CAN/CSA-Z240.3.1., "Plumbing Requirements for Mobile Homes", if the *building* is constructed in Sections not wider than 4.88 m, or
- (b) CSA A-277 "Procedure for Certification of Factory-Built Houses".
- (3) The requirements of this Code shall apply to
 - (a) *building* components designed and constructed outside the place of manufacture, and
 - (b) site installation of such *buildings*.

2.1.1.5. Farm Buildings

(1) Except as provided in Sentences (2) and (3), *farm buildings* shall conform to the requirements in the CCBFC National Farm Building Code of Canada 1995.

(2) Articles 1.1.1.2. and 3.1.8.1. and Subsections 3.1.4. and 4.1.4. in the National Farm Building Code of Canada do not apply to *farm buildings*.

(3) In the National Farm Building Code of Canada, references in Articles 1.1.1.3., 1.2.1.2., 2.2.2.1., 2.2.2.2., 2.3.1.1., 2.3.2.1., 3.1.1.1., 3.1.1.2., 3.1.2.1. and 3.1.6.1. to the National Building Code of Canada are deemed to refer to this Code.

2.1.1.6. Renovation of Existing Buildings

(1) Except as provided in Sentence (2), Part 11 applies to the design and *construction* of existing *buildings*, or parts of existing *buildings*, that have been in existence for at least five years.

(2) Where a *building* has been in existence for at least five years but includes an addition that has been in existence for less than five years, Part 11 applies to the entire *building*.

2.1.1.7. Existing Buildings

(1) Except as provided in Section 3.15., Article 7.1.2.2., Section 9.41. and Part 11, where an existing *building* is extended or subject to material alteration or repair, the Code is applicable only to the design and *construction* of the extensions and those parts of the *building* that are subject to the material alteration or repair.

(2) Where an existing previously occupied *building* is moved from the original location to be installed elsewhere, or is dismantled at the original location and moved to be reconstituted elsewhere, the Code applies only to changes to the design and *construction* of the *building* required as a result of moving the *building*.

2.1.1.8. Radon

(1) In addition to all other requirements, a *building* in the following designated areas shall be designed and constructed so that the annual average concentration of radon 222 does not exceed 250 millibecquerels per litre of air and the annual average concentration of the short lived daughters of radon 222 does not exceed 0.02 working levels inside the *building*

- (a) The Town of Elliot Lake in the Territorial District of Algoma,
- (b) The Township of Faraday in the County of Hastings, and
- (c) The geographic Township of Hyman in the Territorial District of Sudbury.

2.1.1.9. Durability of Parking Structures

(1) Parking structures shall be designed in conformance with CAN/CSA-S413, "Parking Structures".

2.1.1.10. Language Used on Required Signs

(1) All required signs in this Code shall be displayed in the English language or in the English and French languages, including operational material on all life safety equipment and devices.

2.1.1.11. Energy Efficiency

(1) Except for *buildings* of *residential occupancy* within the scope of Part 9, *farm buildings* and areas of *buildings* intended primarily for manufacturing or commercial or industrial processing, the energy efficiency of all *buildings* shall be designed to good engineering practice such as described in

- (a) the ASHRAE/IES 90.1-1989, "Energy Efficient Design of New Buildings Except Lowrise Residential Buildings" and the Supplementary Guidelines to the 1997 OBC, or

- (b) the Model National Energy Code for Buildings, 1997.

2.1.1.12. Change of Use

(1) Part 10 applies to existing *buildings* requiring a permit under Section 10 of the Act.

2.1.1.13. Building in Flood Plains

- (1) *Buildings* constructed on flood plains shall
- (a) be designed and constructed in accordance with good engineering practice to withstand anticipated vertical and horizontal hydrostatic pressures acting on the structure, and
 - (b) incorporate floodproofing measures that will preserve the integrity of exits and means of egress during times of flooding.

2.1.2. Designated Structures

2.1.2.1. Part 4

- (1) Part 4 applies to the following designated structures:
- (a) a retaining wall exceeding 1 000 mm in exposed height adjacent to
 - (i) public property,
 - (ii) access to a *building*, or
 - (iii) private property to which the public is admitted,
 - (b) the structural requirements for signs regulated by Section 3.14.,
 - (c) a communication tower exceeding 16.6 m above ground level,
 - (d) a pedestrian bridge appurtenant to a *building*,
 - (e) a crane runway,
 - (f) an exterior storage tank and its supporting structure which is not regulated by the *Gasoline Handling Act* or the *Energy Act*,
 - (g) a dish antenna or a solar collector that is mounted on a *building* and has a face area equal to or greater than 5 m², and
 - (h) an *outdoor pool* that has a water depth greater than 3.5 m at any point.
- (2) *Public pools* are designated structures to which Section 3.11. applies.

2.1.3. Building Size Determination

2.1.3.1. Building Divided by Firewalls

- (1) Where a *firewall* divides a *building*, each portion of the *building* so divided shall be considered as a separate *building*, except for the purpose of
- (a) *gross area* determination in Section 2.3.,
 - (b) a fire alarm and detection system in Sentence 3.2.4.2.(1) or Article 9.10.17.1., or
 - (c) a *plumbing system* interconnected through a *firewall*.

2.1.3.2. Building Divided by Vertical Fire Separations

(1) Except as permitted in Sentence (2), where portions of a *building* are completely separated by a vertical *fire separation* that has a *fire-resistance rating* of at least 1 h and extends through all *storeys* and *service spaces* of the separate portions, each separated portion is permitted to be considered as a separate *building* for the purpose of determining *building height* provided

- (a) each separated portion is not more than 3 *storeys* in *building height* and is used only for *residential occupancies*, and
- (b) the unobstructed path of travel for the firefighter from the nearest *street* to one entrance of each separated portion is not more than 45 m.

(2) The vertical *fire separation* in Sentence (1) may terminate at the floor assembly immediately above a *basement* provided the *basement* conforms to Article 3.2.1.2.

Section 2.2. Materials, Appliances, Systems and Equipment

2.2.1. General

2.2.1.1. Characteristics of Materials, Appliances, Systems and Equipment

(1) All materials, *appliances*, systems and equipment installed to meet the requirements of this Code shall possess the necessary characteristics to perform their intended functions when installed in a *building*.

2.2.1.2. Recycled Materials, Used Materials, Appliances and Equipment

(1) Unless otherwise specified, recycled materials in *building* products may be used and used materials, *appliances* and equipment may be reused when they meet the requirements of this Code for new materials and are satisfactory for the intended use.

2.2.2. Building Materials Evaluation Commission

2.2.2.1. Application Fee

(1) The fee on an application to the Building Materials Evaluation Commission is \$750.00.

Section 2.3. Design and General Review

2.3.1. Design

2.3.1.1. Design by Architect or Professional Engineer

(1) Except as permitted in Sentences (2) and (3), the *construction*, including, for greater certainty, enlargement or alteration, of every *building* or part thereof described in Table 2.3.1.1. and this Article shall be designed and reviewed by an *architect*, *professional engineer* or both.

(2) An *architect* may provide the services within the practice of professional engineering in any *building* described in Table 2.3.1.1., or a *professional engineer* may provide the services within the practice of architecture in any *building* described in Table 2.3.1.1. where to do so does not constitute a substantial part of the services provided by the other profession related to the *construction* of the *building* and is necessary

- (a) for the *construction* of the *building* and is incidental to the other services provided by the *architect* or *professional engineer*, or
- (b) for coordination purposes.

Table 2.3.1.1.(4)

Design and General Review

Forming Part of Sentence 2.3.1.1.(1)

| Building Classification by Major Occupancy | Building Description | Design and General Review by: |
|--|--|--|
| <i>Assembly occupancy only</i> | <i>Every building</i> | <i>Architect and professional engineer⁽¹⁾</i> |
| <i>Assembly occupancy and any other major occupancy except industrial</i> | <i>Every building</i> | <i>Architect and professional engineer⁽¹⁾</i> |
| <i>Care or detention occupancy only</i> | <i>Every building</i> | <i>Architect and professional engineer⁽¹⁾</i> |
| <i>Care or detention occupancy and any other major occupancy except industrial</i> | <i>Every building</i> | <i>Architect and professional engineer⁽¹⁾</i> |
| <i>Residential occupancy only</i> | <i>Every building that exceeds 3 storeys in building height</i> | <i>Architect and professional engineer⁽¹⁾</i> |
| | <i>Every building that exceeds 600 m² in gross area and that contains a residential occupancy other than a dwelling unit or dwelling units</i> | <i>Architect⁽²⁾</i> |
| <i>Residential occupancy only</i> | <i>Every building that exceeds 600 m² in gross area and contains a dwelling unit above another dwelling unit</i> | <i>Architect⁽²⁾</i> |
| | <i>Every building that exceeds 600 m² in building area contains 3 or more dwelling units and has no dwelling unit above another dwelling unit</i> | <i>Architect⁽²⁾</i> |
| <i>Residential occupancy and any other major occupancy except industrial, assembly or care or detention occupancy</i> | <i>Every building that exceeds 600 m² in gross area or 3 storeys in building height</i> | <i>Architect and professional engineer⁽¹⁾</i> |
| <i>Business and personal services occupancy only</i> | <i>Every building that exceeds 600 m² in gross area or 3 storeys in building height</i> | <i>Architect and professional engineer⁽¹⁾</i> |
| <i>Business and personal services occupancy and any other major occupancy except industrial, assembly or care or detention occupancy</i> | <i>Every building that exceeds 600 m² in gross area or 3 storeys in building height</i> | <i>Architect and professional engineer⁽¹⁾</i> |
| <i>Mercantile occupancy only</i> | <i>Every building that exceeds 600 m² in gross area or 3 storeys in building height</i> | <i>Architect and professional engineer⁽¹⁾</i> |
| <i>Mercantile occupancy and any other major occupancy except industrial, assembly or care or detention occupancy</i> | <i>Every building that exceeds 600 m² in gross area or 3 storeys in building height</i> | <i>Architect and professional engineer⁽¹⁾</i> |
| <i>Industrial occupancy only and where there are no subsidiary occupancies</i> | <i>Every building that exceeds 600 m² in gross area or 3 storeys in building height</i> | <i>Architect or professional engineer⁽³⁾</i> |
| <i>Industrial occupancy and one or more other major occupancies where the portion of the area occupied by one of the other major or subsidiary occupancies exceeds 600 m²</i> | <i>The non-industrial portion of every building</i> | <i>Architect and professional engineer⁽¹⁾</i> |
| | <i>The industrial portion of every building</i> | <i>Architect or professional engineer⁽³⁾</i> |
| <i>Industrial occupancy and one or more other major occupancies where no portion of the area occupied by one of the other major or subsidiary occupancies exceeds 600 m²</i> | <i>Every building that exceeds 600 m² in gross area or 3 storeys in building height</i> | <i>Architect or professional engineer⁽³⁾</i> |
| Column 1 | 2 | 3 |

Notes To Table 2.3.1.1.

- (1) An architect shall provide services within the practice of architecture and a professional engineer shall provide the services within the practice of professional engineering.
- (2) An architect may engage a professional engineer to provide services within the practices of professional engineering.
- (3) Only a professional engineer may provide services within the practice of professional engineering.
- (4) Requirements for design and general review by an architect or professional engineer or a combination of both for the construction, enlargement or alteration of a building are set out in the Architects Act and the Professional Engineers Act.

(3) The requirement for an *architect* does not apply to the preparation or provision of a design for interior space for a *building*, including finishes, fixed or loose furnishings, equipment, fixtures and partitioning of space, and related exterior elements such as signs, finishes and glazed openings used for display purposes, that does not affect or is not likely to affect

- (a) the structural integrity,
- (b) a fire safety system or *fire separation*,
- (c) a main entrance or *public corridor* on a floor,
- (d) an *exit* to a public thoroughfare or to the exterior,
- (e) the *construction* or location of an exterior wall, or
- (f) the usable floor space through the addition of a *mezzanine*, infill or other similar element,

of the *building*.

(4) Where a *building* or part thereof described in Table 2.3.1.1. is designed by an *architect* or a *professional engineer* or a combination of both as required by this Article, all plans, sketches, drawings, graphic representations, specifications and other documents that are prepared by an *architect*, *professional engineer* or both and that form the basis for the issuance of a building permit or any changes thereto authorized by the *chief building official* shall bear the signature and seal of the *architect*, *professional engineer* or both, as applicable.

(5) Where the *foundations* of a *building* are to be constructed below the level of the footings of an adjacent *building* and within the angle of repose of the *soil*, as drawn from the bottom of the footings, the *foundations* shall be designed by a *professional engineer*.

(6) The thermal design of a *building* in accordance with Section 9.38. shall be prepared and provided by an *architect* or *professional engineer* or a combination of both.

2.3.2. General Review

2.3.2.1. General Review by Architect or Professional Engineer

(1) Except as permitted in Sentence (2), a person who intends to *construct* or have constructed a *building* required to be designed by an *architect*, *professional engineer* or both, shall ensure that an *architect*, *professional engineer* or both are retained to undertake the general review of the *construction* of the *building* in accordance with the performance standards of the Ontario Association of Architects or the Association of Professional Engineers of Ontario, as applicable, to determine whether the *construction* is in general conformity with the plans, sketches, drawings, graphic representations, specifications and other documents that are prepared by an *architect*, *professional engineer* or both and that form the basis for the issuance of a *building* permit or any changes thereto authorized by the *chief building official*; copies of written reports arising out of the general review shall be forwarded to the *chief building official* by the *architect*, *professional engineer* or both who have been retained to undertake the general review of the *construction* of the *building*.

(2) An *architect* or a *professional engineer* need not be retained to undertake the general review of *construction* of a *building* where the *building* is designed in accordance with Section 9.38.

2.3.2.2. Restriction for General Review

(1) Only an *architect* may carry out or provide the general review of the *construction* of a *building*

- (a) that is constructed in accordance with a design prepared or provided by an *architect*, or
- (b) in relation to services that are provided by an *architect* in connection with the design in accordance with which the *building* is constructed.

(2) Only a *professional engineer* may carry out or provide the general review of the *construction* of a *building*

- (a) that is constructed in accordance with a design prepared or provided by a *professional engineer*, or
- (b) in relation to services that are provided by a *professional engineer* in connection with the design in accordance with which the *building* is constructed.

2.3.2.3. Demolition of a Building

(1) The applicant for a permit respecting the *demolition* of a *building* shall retain a *professional engineer* to undertake the general review of the project during *demolition*, where

- (a) the *building* exceeds 3 storeys in *building height* or 600 m² in *building area*,
- (b) the *building* structure includes pre-tensioned or post-tensioned members,
- (c) it is proposed that the *demolition* will extend below the level of the footings of any adjacent *building* and occur within the angle of repose of the *soil*, drawn from the bottom of such footings, or
- (d) explosives or a laser are to be used during the course of *demolition*.

Section 2.4. Permits and Inspections

2.4.1. Permits

2.4.1.1. Requirement for Permits

(1) A person is exempt from the requirement to obtain a permit under Section 8 of the Act

- (a) for the *demolition* of a *building* located on a farm, or
- (b) for the *construction* or *demolition* of a *building* in territory without municipal organization.

(2) Where a permit is required for the *demolition* of a *building* in Sentence 2.3.2.3.(1), descriptions of the structural design characteristics of the *building* and the method of *demolition* shall be included in the application for a permit to demolish the *building*.

(3) No person shall commence *demolition* of a *building* or any part of a *building* before the *building* has been vacated by the occupants except where the safety of the occupants is not affected.

(4) A person is exempt from the requirement to obtain a permit under Section 10 of the Act for the change of use of a *building* in territory without municipal organization.

(5) A tent or group of tents is exempt from the requirement to obtain a permit under Section 8 of the Act and is exempt from compliance with the Code provided that the tent or group of tents are

- (a) not more than 60 m² in aggregate ground area,
- (b) not attached to a building, and
- (c) constructed more than 3 m from other structures.

2.4.1.2. Permits Under Section 10 of the Act

(1) Except as provided in Sentence (2), the following changes in use of a *building* or part of a *building* constitute an increase in hazard for the purposes of Section 10 of the Act and require a permit under Section 10 of the Act:

- (a) a change of the *major occupancy* of all or part of a *building* that is designated with a "Y" in Table 2.4.1.2. takes place,
- (b) a *suite* of a Group C *major occupancy* is converted into more than one *suite* of Group C *major occupancy*,
- (c) a *farm building* or part of a *farm building* is changed to a *major occupancy*, or
- (d) the use of a *building* or part of a *building* is changed and the previous *major occupancy* of the *building* or part of the *building* cannot be determined.

(2) A person is exempt from the requirement to obtain a permit under Section 10 of the Act where the change in use of the *building* or part of the *building* will result from proposed *construction* and a permit under Section 8 of the Act has been issued in respect of such *construction*.

Table 2.4.1.2.**Permit Required for Change of Use**Forming Part of Sentence 2.4.1.2.(1)⁽¹⁾

| | | FROM ⁽²⁾ | | | | | | | | | | | | |
|-------------------|-----|---------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----|------------------|------------------|------------------|------------------|------------------|
| | | A-1 | A-2 | A-3 | A-4 | B-1 | B-2 | B-3 | C | D | E | F-1 | F-2 | F-3 |
| TO ⁽³⁾ | A-1 | N ⁽⁵⁾ | Y | Y | N ⁽⁵⁾ | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | A-2 | Y | N ⁽⁵⁾ | Y | N ⁽⁵⁾ | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | A-3 | Y | Y | N ⁽⁵⁾ | N ⁽⁵⁾ | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | A-4 | Y | Y | Y | N ⁽⁵⁾ | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | B-1 | Y | Y | Y | N ⁽⁵⁾ | N ⁽⁵⁾ | Y | Y | Y | Y | Y | Y | Y | Y |
| | B-2 | Y | Y | Y | N ⁽⁵⁾ | Y | N ⁽⁵⁾ | Y | Y | Y | Y | Y | Y | Y |
| | B-3 | Y | Y | Y | N ⁽⁵⁾ | Y | N ⁽⁵⁾ | N ⁽⁵⁾ | Y | Y | Y | Y | Y | Y |
| | C | Y | Y | Y | N ⁽⁵⁾ | Y | N ⁽⁵⁾ | N ⁽⁵⁾ | (4) | Y | Y | Y | Y | Y |
| | D | N ⁽⁵⁾ | N ⁽⁵⁾ | Y | N ⁽⁵⁾ | Y | N ⁽⁵⁾ | N ⁽⁵⁾ | Y | N ⁽⁵⁾ | Y | Y | N ⁽⁵⁾ | N ⁽⁵⁾ |
| | E | Y | Y | Y | N ⁽⁵⁾ | Y | Y | Y | Y | Y | N ⁽⁵⁾ | Y | Y | Y |
| | F-1 | Y | Y | Y | N ⁽⁵⁾ | Y | Y | Y | Y | Y | Y | N ⁽⁵⁾ | Y | Y |
| | F-2 | Y | Y | Y | N ⁽⁵⁾ | Y | Y | Y | Y | Y | Y | N ⁽⁵⁾ | N ⁽⁵⁾ | Y |
| | F-3 | Y | N ⁽⁵⁾ | Y | N ⁽⁵⁾ | Y | Y | Y | Y | N ⁽⁵⁾ | N ⁽⁵⁾ | N ⁽⁵⁾ | N ⁽⁵⁾ | N ⁽⁵⁾ |

Notes to Table 2.4.1.2.:

- (1) See Clauses 2.4.1.2.(1)(a), 3.15.1.1.(1)(a) and 9.41.1.1.(1)(a).
- (2) *Major occupancy* of all or part of a *building* before change of use.
- (3) *Major occupancy* of all or part of a *building* after change of use.
- (4) See Clauses 2.4.1.2.(1)(b), 3.15.1.1.(1)(b), 9.41.1.1.(1)(b) and 11.4.2.3.(1)(b).
- (5) "N" is only applicable where the major occupancy of the entire suite is changed.

2.4.1.3. Conditional Permits

(1) The *chief building official* shall not issue a conditional permit for any stage of *construction* under Subsection 8(3) of the Act unless compliance with the following *applicable laws* has been achieved in respect of the *construction* of the proposed *building*:

- (a) regulations made under Clause 28(1)(e) of the *Conservation Authorities Act*,
- (b) Subsection 5(3) of the *Environmental Assessment Act*,
- (c) Section 76 of the *Environmental Protection Act*,
- (d) Subsection 24(3) of the *Niagara Escarpment Planning and Development Act*,
- (e) Section 30, Subsections 33(1), 34(1) and Section 42 of the *Ontario Heritage Act*,
- (f) Subsection 4(1) and Section 6 of the *Rental Housing Protection Act*.

(2) For the purposes of issuing a conditional permit under Subsection 8(3) of the Act, a person is exempt from the requirement in Clause 8(3)(a) of the Act of compliance with by-laws passed under Sections 34 and 38 of the *Planning Act* where

- (a) a committee of adjustment has made a decision under Section 45 of the *Planning Act* authorizing one or more minor variances from the provisions of any by-laws made under Sections 34 and 38 of that Act,
- (b) such minor variance or variances result in the achievement of full compliance with such by-laws, and
- (c) no person informed the committee of adjustment of objections to the minor variances either in writing or in person at the hearing of the application.

(3) For the purposes of issuing a conditional permit under Subsection 8(3) of the Act, a person is exempt from the requirement in Clause 8(3)(a) of the Act of compliance with by-laws passed under Sections 34 and 38 of the *Planning Act* where the *construction* in respect of which the conditional permit is issued is required in order to comply with an order issued under s.18(2) of the *Fire Marshals Act* or under s.15(3) of the Act.

(4) A permit issued under Subsection 8(3) of the Act shall indicate its conditional nature.

2.4.2. Site Documents**2.4.2.1. Permit Posting**

(1) Where a permit has been issued pursuant to the Act, the person to whom it is issued shall have the permit or a copy thereof posted at all times during *construction* or *demolition* in a conspicuous place on the property in respect of which the permit was issued.

2.4.2.2. Documentation on Site

(1) The person in charge of the *construction* of the *building* shall keep and maintain on the site of the *construction*

- (a) at least one copy of drawings and specifications certified by the *chief building official* or a person designated by the *chief building official* to be a copy of those submitted with the application for the permit to *construct* the *building*, together

with changes that are authorized by the *chief building official* or a person designated by the *chief building official*, and

- (b) authorization or facsimiles thereof received from the Building Materials Evaluation Commission, including specified terms and conditions.

2.4.3. Occupancy of Unfinished Building**2.4.3.1. Occupancy Permit**

(1) Except as permitted in Sentence 2.4.3.2.(1), a person may occupy or permit to be occupied any *building* or part thereof that has not been fully completed at the date of occupation where the *chief building official* or a person designated by the *chief building official* has issued a permit authorizing occupation of the *building* or part thereof prior to its completion in accordance with Sentence (2).

(2) The *chief building official* or a person designated by the *chief building official* shall issue a permit authorizing occupation of a *building*, where

- (a) the structure of the *building* or part thereof is completed to the roof,
- (b) the enclosing walls of the *building* or part thereof are completed to the roof,
- (c) the walls enclosing the space to be occupied are completed, including balcony *guards*,
- (d) all required *fire separations* and *closures* are completed on all storeys to be occupied,
- (e) all required *exits* are completed and fire separated including all doors, door hardware, self-closing devices, balustrades and handrails from the uppermost floor to be occupied down to *grade* level and below if an *exit* connects with lower *storeys*,
- (f) all shafts including *closures* are completed to the floor-ceiling assembly above the *storey* to be occupied and have a temporary *fire separation* at such assembly,
- (g) measures have been taken to prevent access to parts of the building and site that are incomplete or still under *construction*,
- (h) floors, halls, lobbies and required *means of egress* are kept free of loose materials and other hazards,
- (i) if service rooms should be in operation, required *fire separations* are completed and all *closures* installed,
- (j) all *building drains*, *building sewers*, *water systems*, *drainage systems* and *venting systems* are complete and tested as operational for the *storeys* to be occupied,
- (k) required lighting, heating and electrical supply are provided for the *suites*, rooms and common areas to be occupied,
- (l) required lighting in corridors, stairways and *exits* is completed and operational up to and including all *storeys* to be occupied,

- (m) required standpipe, sprinkler and fire alarm systems are complete and operational up to and including all *storeys* to be occupied, together with required pumper connections for such standpipes and sprinklers,
- (n) required fire extinguishers have been installed on all *storeys* to be occupied,
- (o) main garbage rooms, chutes and ancillary services thereto are completed to *storeys* to be occupied, and
- (p) required fire fighting access routes have been provided and are accessible.

2.4.3.2. Conditions for Residential Occupancy

(1) A person may occupy or permit to be occupied a *building* intended for *residential occupancy* that has not been fully completed at the date of occupation provided that

- (a) the *building*
 - (i) is not more than 3 *storeys* in *building height* and 600 m² in *building area*,
 - (ii) has not more than 1 *dwelling unit* above another *dwelling unit*,
 - (iii) has not more than 2 *dwelling units* sharing a common *means of egress*, and
 - (iv) has no accommodation for tourists,
- (b) the following *building* components and systems are complete, operational and inspected:
 - (i) required *exits*, handrails and *guards*, fire alarm and detection systems, and *fire separations*,
 - (ii) required exhaust fume barriers and self-closing devices on doors between an attached or built-in garage and a dwelling unit, and
 - (iii) water supply, sewage disposal, lighting and heating systems,
- (c) the following *building* components and systems are complete, operational, inspected and tested:
 - (i) *water systems*,
 - (ii) *building drains* and *building sewers*, and
 - (iii) *drainage systems* and *venting systems*, and
- (d) where applicable, the *building* conforms to Article 2.1.1.8.

2.4.3.3. Notification

(1) Where a person has occupied or permitted the occupancy of a *building* under this Subsection, such person shall notify the *chief building official* forthwith upon completion of the *building*.

2.4.4. Fire Department Inspection

2.4.4.1. Fire Department Approval

(1) Where the council of a *municipality* assigns to an inspector who is the chief of the fire department of the municipality specific responsibility for the enforcement of any portion of this Code respecting fire safety matters, the *chief building official* shall not issue a permit to *construct* a *building* unless the inspector approves as complying with such portion of this Code the drawings submitted with the application for the permit.

2.4.5. Notices to Chief Building Official

2.4.5.1. Notices

(1) Where the council of a *municipality* passes a by-law under Clause 7(e) of the Act, the person to whom a permit has been issued shall notify the *chief building official*

- (a) of the commencement of the *construction* of the *building*,
- (b) of the readiness to *construct* the footings,
- (c) of the substantial completion of the footings and foundations,
- (d) where the *building* is within the scope of Part 9, of the substantial completion of
 - (i) structural framing,
 - (ii) insulation and vapour barriers, and
 - (iii) ductwork and piping for heating and *air-conditioning* systems,
- (e) where the *building* is within the scope of parts of this Code other than Part 9, of the substantial completion of
 - (i) structural framing of each *storey*,
 - (ii) insulation and vapour barriers, and
 - (iii) roughing-in of heating, ventilation, *air-conditioning* and air-contaminant extraction equipment,
- (f) of the commencement of the *construction* of
 - (i) masonry fireplaces and *masonry chimneys*,
 - (ii) factory-built fireplaces and allied *chimneys*,
 - (iii) *stoves*, *ranges*, *space heaters* and add-on *furnaces* using solid fuels and allied *chimneys*,
- (g) of the substantial completion of all required *fire separations* and *closures* and all fire protection systems including standpipe, sprinkler, fire alarm and emergency lighting systems,
- (h) of the substantial completion of interior finishes and heating, ventilating, *air-conditioning* and air-contaminant extraction equipment,

- (i) of the substantial completion of exterior cladding, fire access routes and site grading,
- (j) of the completion of construction and installation of components required to permit occupancy by Sentences 2.4.3.1.(2) and 2.4.3.2.(1),
- (k) of the readiness for inspection and testing of
 - (i) *building sewers and building drains*,
 - (ii) *water service pipes*,
 - (iii) *drainage systems and venting systems*,
 - (iv) *water distribution system*, and
 - (v) *plumbing fixtures and plumbing appliances*, and
- (l) of the completion and availability of drawings of the *building* as constructed.

2.4.6. As Constructed Plans

2.4.6.1. Application

(1) Where the council of a municipality has passed a by-law pursuant to Subsection 7(g) of the Act, the *chief building official* may require that *as constructed plans* for the whole of, or any part or system of, a *building* or any class of *buildings* be provided by the persons responsible for the *construction*.

Section 2.5. Climatic Data

2.5.1. Climatic and Seismic Values

2.5.1.1. Design Values

(1) The climatic and seismic values required for the design of *buildings* under this Code shall be in conformance with the values provided in Table 2.5.1.1.

Table 2.5.1.1.

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Days Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | |
|----------------|--------------------|--------|-----------|---------|------------------------|-------------------------|-------------------|---------------------|---------------------|---------------------------|---------------------------|-----------|-----------------------|------------|----------------|----------------|-------------------------|----------------------------------|-------------|
| | January | | July 2½ % | | | | | | Ground Loads, kPa | Composite Load, kPa | | 1/10, kPa | 1/30, kPa | 1/100, kPa | z _a | z _v | Zonal velocity ratio, v | | |
| | 2½%, °C | 1½, °C | Dry, °C | Wet, °C | | | | | | Snow S _r , kPa | Rain S _r , kPa | | | | | | | Part 9, 0.6 ⁽¹⁾ , kPa | Part 9, kPa |
| | | | | | | | | | | | | | | | | | | | |
| Ailsa Craig | -17 | -19 | 30 | 23 | 4 000 | 25 | 95 | 950 | 2.0 | 0.4 | 1.60 | 1.40 | 0.40 | 0.50 | 0.62 | 0 | 0 | 0.00 | |
| Ajax | -20 | -22 | 30 | 23 | 4 000 | 23 | 85 | 825 | 0.9 | 0.4 | 0.94 | 0.85 | 0.43 | 0.52 | 0.64 | 1 | 1 | 0.05 | |
| Alexandria | -24 | -26 | 30 | 23 | 4 600 | 28 | 95 | 995 | 2.2 | 0.4 | 1.72 | 1.50 | 0.30 | 0.37 | 0.45 | 4 | 2 | 0.10 | |
| Alliston | -23 | -25 | 29 | 23 | 4 400 | 28 | 105 | 875 | 1.8 | 0.4 | 1.48 | 1.30 | 0.22 | 0.29 | 0.38 | 1 | 0 | 0.05 | |
| Almonte | -26 | -28 | 30 | 23 | 4 850 | 25 | 80 | 800 | 2.3 | 0.4 | 1.78 | 1.55 | 0.30 | 0.37 | 0.46 | 4 | 2 | 0.10 | |
| Armstrong | -39 | -42 | 28 | 21 | 7 050 | 23 | 90 | 725 | 2.5 | 0.4 | 1.90 | 1.65 | 0.21 | 0.25 | 0.29 | 0 | 0 | 0.00 | |
| Arnprior | -27 | -29 | 30 | 23 | 4 800 | 23 | 80 | 775 | 2.3 | 0.4 | 1.78 | 1.55 | 0.27 | 0.34 | 0.42 | 4 | 2 | 0.10 | |
| Atikokan | -34 | -37 | 29 | 22 | 6 100 | 25 | 95 | 760 | 2.2 | 0.3 | 1.62 | 1.40 | 0.21 | 0.25 | 0.29 | 0 | 0 | 0.00 | |
| Aurora | -21 | -23 | 30 | 23 | 4 300 | 28 | 100 | 800 | 1.8 | 0.4 | 1.48 | 1.30 | 0.30 | 0.39 | 0.50 | 1 | 0 | 0.05 | |
| Bancroft | -27 | -29 | 29 | 22 | 4 900 | 25 | 85 | 900 | 2.8 | 0.4 | 2.08 | 1.80 | 0.23 | 0.29 | 0.36 | 2 | 1 | 0.05 | |
| Barrie | -24 | -26 | 29 | 22 | 4 600 | 28 | 90 | 900 | 2.3 | 0.4 | 1.78 | 1.55 | 0.21 | 0.29 | 0.39 | 1 | 1 | 0.05 | |
| Barriefield | -22 | -24 | 27 | 23 | 4 250 | 23 | 105 | 950 | 1.9 | 0.4 | 1.54 | 1.35 | 0.35 | 0.43 | 0.52 | 2 | 1 | 0.05 | |
| Beaverton | -24 | -26 | 30 | 22 | 4 550 | 28 | 100 | 950 | 2.0 | 0.4 | 1.60 | 1.40 | 0.24 | 0.32 | 0.42 | 1 | 1 | 0.05 | |
| Belleville | -22 | -24 | 29 | 23 | 4 100 | 23 | 95 | 850 | 1.6 | 0.4 | 1.36 | 1.20 | 0.32 | 0.39 | 0.48 | 1 | 1 | 0.05 | |
| Belmont | -17 | -19 | 30 | 23 | 4 050 | 25 | 90 | 950 | 1.6 | 0.4 | 1.36 | 1.20 | 0.35 | 0.45 | 0.58 | 0 | 0 | 0.00 | |
| Big Trout Lake | -38 | -40 | 25 | 20 | 7 650 | 13 | 85 | 600 | 2.9 | 0.2 | 1.94 | 1.65 | 0.33 | 0.39 | 0.46 | 0 | 0 | 0.00 | |
| Borden CFB | -23 | -25 | 29 | 22 | 4 550 | 28 | 105 | 875 | 2.0 | 0.4 | 1.60 | 1.40 | 0.21 | 0.29 | 0.39 | 1 | 0 | 0.05 | |
| Bracebridge | -26 | -28 | 29 | 22 | 4 850 | 25 | 95 | 1 050 | 2.8 | 0.4 | 2.08 | 1.80 | 0.26 | 0.32 | 0.39 | 1 | 1 | 0.05 | |
| Bradford | -23 | -25 | 30 | 23 | 4 400 | 28 | 100 | 800 | 1.9 | 0.4 | 1.54 | 1.35 | 0.24 | 0.32 | 0.42 | 1 | 0 | 0.05 | |
| Brampton | -19 | -21 | 30 | 23 | 4 250 | 28 | 110 | 820 | 1.2 | 0.4 | 1.12 | 1.00 | 0.32 | 0.39 | 0.49 | 1 | 0 | 0.05 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

(1) The composite load is 60% of the ground snow load plus the rain load.

(2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | |
|----------------|-----------------------|----------------------|-----------------------|---------|------------------------|--------------------|-------------------|---------------------|---------------------|---------------------|-----------|-----------|-----------------------|----------------|----------------|-------------------------|--------------|------|--|
| | January | | July 24 th | | | | | | Ground Loads, kPa | Composite Load, kPa | 1/10, kPa | 1/30, kPa | 1/100, kPa | z _a | z _v | Zonal velocity ratio, v | | | |
| | 24 th , °C | 1 st , °C | Dry, °C | Wet, °C | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| Brantford | -17 | -19 | 30 | 23 | 3 950 | 23 | 95 | 850 | 1.2 | 0.4 | 1.12 | 1.00 | 0.31 | 0.37 | 0.44 | 1 | 0 | 0.05 | |
| Brighton | -21 | -23 | 29 | 23 | 4 200 | 23 | 90 | 850 | 1.5 | 0.4 | 1.30 | 1.15 | 0.42 | 0.50 | 0.60 | 1 | 1 | 0.05 | |
| Brockville | -23 | -25 | 29 | 23 | 4 275 | 25 | 95 | 975 | 2.0 | 0.4 | 1.60 | 1.40 | 0.32 | 0.39 | 0.49 | 3 | 1 | 0.05 | |
| Burks Falls | -26 | -28 | 29 | 21 | 5 100 | 25 | 95 | 1 010 | 2.5 | 0.4 | 1.90 | 1.65 | 0.26 | 0.32 | 0.39 | 1 | 1 | 0.05 | |
| Burlington | -17 | -19 | 31 | 23 | 3 775 | 23 | 95 | 850 | 0.8 | 0.4 | 0.88 | 0.80 | 0.36 | 0.43 | 0.51 | 1 | 0 | 0.05 | |
| Cambridge | -18 | -20 | 29 | 23 | 4 150 | 25 | 105 | 890 | 1.5 | 0.4 | 1.30 | 1.15 | 0.26 | 0.32 | 0.39 | 1 | 0 | 0.05 | |
| Campbellford | -23 | -26 | 30 | 23 | 4 450 | 25 | 90 | 850 | 1.6 | 0.4 | 1.36 | 1.20 | 0.29 | 0.37 | 0.47 | 1 | 1 | 0.05 | |
| Cannington | -24 | -26 | 30 | 23 | 4 550 | 28 | 100 | 950 | 2.0 | 0.4 | 1.60 | 1.40 | 0.24 | 0.32 | 0.42 | 1 | 1 | 0.05 | |
| Carleton Place | -25 | -27 | 30 | 23 | 4 800 | 25 | 80 | 850 | 2.3 | 0.4 | 1.78 | 1.55 | 0.30 | 0.37 | 0.46 | 4 | 2 | 0.10 | |
| Cavan | -22 | -25 | 30 | 23 | 4 500 | 28 | 90 | 850 | 1.8 | 0.4 | 1.48 | 1.30 | 0.31 | 0.39 | 0.50 | 1 | 1 | 0.05 | |
| Centralia | -17 | -19 | 30 | 23 | 4 100 | 25 | 95 | 1 000 | 2.1 | 0.4 | 1.66 | 1.45 | 0.37 | 0.48 | 0.60 | 0 | 0 | 0.00 | |
| Chapleau | -35 | -38 | 27 | 21 | 6 200 | 23 | 90 | 850 | 3.7 | 0.4 | 2.62 | 2.25 | 0.19 | 0.25 | 0.31 | 0 | 0 | 0.00 | |
| Chatham | -16 | -18 | 31 | 24 | 3 750 | 28 | 95 | 850 | 0.9 | 0.4 | 0.94 | 0.85 | 0.32 | 0.39 | 0.48 | 0 | 0 | 0.00 | |
| Chesley | -19 | -21 | 29 | 22 | 4 500 | 28 | 95 | 1 125 | 2.6 | 0.4 | 1.96 | 1.70 | 0.33 | 0.43 | 0.55 | 1 | 0 | 0.05 | |
| Clinton | -17 | -19 | 29 | 23 | 4 150 | 23 | 95 | 1 000 | 2.4 | 0.4 | 1.84 | 1.60 | 0.37 | 0.48 | 0.60 | 0 | 0 | 0.00 | |
| Cobocook | -25 | -27 | 29 | 22 | 4 750 | 25 | 100 | 950 | 2.3 | 0.4 | 1.78 | 1.55 | 0.26 | 0.32 | 0.39 | 1 | 1 | 0.05 | |
| Cobourg | -21 | -23 | 30 | 23 | 4 100 | 23 | 90 | 825 | 1.1 | 0.4 | 1.06 | 0.95 | 0.46 | 0.55 | 0.65 | 1 | 1 | 0.05 | |
| Cochrane | -34 | -36 | 29 | 21 | 6 400 | 20 | 80 | 875 | 2.6 | 0.3 | 1.86 | 1.60 | 0.26 | 0.32 | 0.39 | 1 | 0 | 0.05 | |
| Colborne | -21 | -23 | 29 | 23 | 4 100 | 23 | 80 | 850 | 1.5 | 0.4 | 1.30 | 1.15 | 0.44 | 0.52 | 0.62 | 1 | 1 | 0.05 | |
| Collingwood | -22 | -24 | 29 | 22 | 4 300 | 28 | 95 | 950 | 2.5 | 0.4 | 1.90 | 1.65 | 0.25 | 0.34 | 0.45 | 1 | 0 | 0.05 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

- (1) The composite load is 60% of the ground snow load plus the rain load.
 (2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | |
|---------------|--------------------|--------|-----------|---------|------------------------|--------------------|-------------------|---------------------|---------------------|-----|---------------------|------|-----------------------|----------------------|----------------------|----------------------------------|----------------------------------|-------------------------|--|
| | January | | July 2½ % | | | | | | Ground Loads, kPa | | Composite Load, kPa | | 1/10, kPa | 1/30, kPa | 1/100, kPa | z _s | z _v | Zonal velocity ratio, v | |
| | 2½t, °C | 1t, °C | Dry, °C | Wet, °C | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | S _s , kPa | S _r , kPa | Part 9, 0.6 ⁽¹⁾ , kPa | Part 9, 0.5 ⁽²⁾ , kPa | | |
| Cornwall | -23 | -25 | 30 | 23 | 4 350 | 28 | 95 | 960 | 2.0 | 0.4 | 1.60 | 1.40 | 0.30 | 0.37 | 0.46 | 4 | 2 | 0.10 | |
| Corunna | -16 | -18 | 31 | 23 | 3 800 | 23 | 90 | 800 | 0.9 | 0.4 | 0.94 | 0.85 | 0.35 | 0.43 | 0.52 | 0 | 0 | 0.00 | |
| Deep River | -29 | -32 | 30 | 22 | 5 050 | 23 | 85 | 850 | 2.3 | 0.4 | 1.78 | 1.55 | 0.26 | 0.32 | 0.39 | 4 | 2 | 0.10 | |
| Deseronto | -22 | -24 | 28 | 23 | 4 200 | 23 | 90 | 900 | 1.7 | 0.4 | 1.42 | 1.25 | 0.32 | 0.39 | 0.48 | 1 | 1 | 0.05 | |
| Dorchester | -18 | -20 | 30 | 23 | 4 100 | 28 | 95 | 950 | 1.7 | 0.4 | 1.42 | 1.25 | 0.33 | 0.43 | 0.55 | 0 | 0 | 0.00 | |
| Dorion | -33 | -35 | 28 | 21 | 5 950 | 20 | 95 | 725 | 2.6 | 0.4 | 1.96 | 1.70 | 0.30 | 0.36 | 0.43 | 0 | 0 | 0.00 | |
| Dresden | -16 | -18 | 31 | 24 | 3 750 | 28 | 90 | 820 | 0.9 | 0.4 | 0.94 | 0.85 | 0.32 | 0.39 | 0.48 | 0 | 0 | 0.00 | |
| Dryden | -34 | -36 | 27 | 22 | 6 000 | 25 | 90 | 700 | 2.2 | 0.3 | 1.62 | 1.40 | 0.21 | 0.25 | 0.29 | 0 | 0 | 0.00 | |
| Dunnville | -15 | -17 | 30 | 24 | 3 900 | 23 | 110 | 950 | 1.8 | 0.4 | 1.48 | 1.30 | 0.33 | 0.39 | 0.45 | 1 | 0 | 0.05 | |
| Durham | -20 | -22 | 29 | 22 | 4 700 | 28 | 95 | 1 025 | 2.6 | 0.4 | 1.96 | 1.70 | 0.31 | 0.39 | 0.50 | 1 | 0 | 0.05 | |
| Dutton | -16 | -18 | 31 | 24 | 3 900 | 28 | 85 | 925 | 1.2 | 0.4 | 1.12 | 1.00 | 0.34 | 0.43 | 0.53 | 0 | 0 | 0.00 | |
| Earlton | -33 | -36 | 30 | 21 | 5 900 | 23 | 85 | 820 | 2.4 | 0.4 | 1.84 | 1.60 | 0.32 | 0.40 | 0.51 | 1 | 1 | 0.05 | |
| Edison | -34 | -36 | 28 | 22 | 5 950 | 25 | 100 | 680 | 2.2 | 0.3 | 1.62 | 1.40 | 0.23 | 0.28 | 0.34 | 0 | 0 | 0.00 | |
| Elmvale | -24 | -26 | 29 | 22 | 4 400 | 28 | 90 | 950 | 2.4 | 0.4 | 1.84 | 1.60 | 0.24 | 0.32 | 0.42 | 1 | 1 | 0.05 | |
| Embro | -18 | -20 | 29 | 23 | 4 200 | 28 | 110 | 950 | 1.8 | 0.4 | 1.48 | 1.30 | 0.33 | 0.43 | 0.54 | 0 | 0 | 0.00 | |
| Englehart | -33 | -36 | 30 | 21 | 6 000 | 23 | 85 | 880 | 2.3 | 0.4 | 1.78 | 1.55 | 0.29 | 0.37 | 0.47 | 1 | 1 | 0.05 | |
| Espanola | -25 | -27 | 28 | 21 | 5 200 | 23 | 100 | 840 | 2.1 | 0.4 | 1.66 | 1.45 | 0.28 | 0.37 | 0.48 | 1 | 0 | 0.05 | |
| Exeter | -17 | -19 | 30 | 23 | 4 150 | 25 | 105 | 975 | 2.2 | 0.4 | 1.72 | 1.50 | 0.37 | 0.48 | 0.60 | 0 | 0 | 0.00 | |
| Fenelon Falls | -25 | -27 | 30 | 23 | 4 650 | 25 | 100 | 950 | 2.1 | 0.4 | 1.66 | 1.45 | 0.25 | 0.32 | 0.41 | 1 | 1 | 0.05 | |
| Fergus | -20 | -22 | 29 | 23 | 4 600 | 33 | 100 | 925 | 2.0 | 0.4 | 1.60 | 1.40 | 0.26 | 0.32 | 0.40 | 1 | 0 | 0.05 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

- (1) The composite load is 60% of the ground snow load plus the rain load.
 (2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | |
|-------------------------------|--------------------|---------|-----------|---------|------------------------|--------------------|-------------------|---------------------|---------------------|-----|---------------------|-----------|-----------------------|-----------|------|------------|----------------|----------------|-------------------------|
| | January | | July 2½ ° | | | | | | Ground Loads, kPa | | Composite Load, kPa | 1/10, kPa | | 1/30, kPa | | 1/100, kPa | z _a | z _v | Zonal velocity ratio, v |
| | 2½°, °C | 1½°, °C | Dry, °C | Wet, °C | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| Forest | -16 | -18 | 31 | 23 | 3 850 | 23 | 95 | 875 | 1.8 | 0.4 | 1.48 | 1.30 | 0.39 | 0.48 | 0.58 | 0 | 0 | 0.00 | |
| Fort Erie | -15 | -17 | 30 | 24 | 3 800 | 23 | 105 | 1 020 | 2.4 | 0.4 | 1.84 | 1.60 | 0.36 | 0.43 | 0.50 | 2 | 0 | 0.05 | |
| Fort Erie (Ridgeway) | -15 | -17 | 30 | 24 | 3 750 | 28 | 105 | 1 000 | 2.3 | 0.4 | 1.78 | 1.55 | 0.37 | 0.43 | 0.50 | 2 | 0 | 0.05 | |
| Fort Frances | -33 | -35 | 29 | 22 | 5 550 | 25 | 100 | 725 | 2.1 | 0.3 | 1.56 | 1.35 | 0.23 | 0.28 | 0.34 | 0 | 0 | 0.00 | |
| Gananoque | -22 | -24 | 28 | 23 | 4 200 | 23 | 95 | 900 | 1.9 | 0.4 | 1.54 | 1.35 | 0.35 | 0.43 | 0.52 | 2 | 1 | 0.05 | |
| Geraldton | -35 | -38 | 28 | 21 | 6 800 | 20 | 80 | 725 | 2.7 | 0.4 | 2.02 | 1.75 | 0.21 | 0.25 | 0.30 | 0 | 0 | 0.00 | |
| Glencoe | -16 | -18 | 31 | 24 | 3 900 | 28 | 95 | 925 | 1.4 | 0.4 | 1.24 | 1.10 | 0.31 | 0.39 | 0.49 | 0 | 0 | 0.00 | |
| Goderich | -16 | -18 | 29 | 23 | 4 000 | 23 | 85 | 950 | 2.2 | 0.4 | 1.72 | 1.50 | 0.40 | 0.50 | 0.62 | 0 | 0 | 0.00 | |
| Gore Bay | -23 | -25 | 29 | 21 | 4 900 | 23 | 85 | 860 | 2.4 | 0.4 | 1.84 | 1.60 | 0.30 | 0.36 | 0.43 | 0 | 0 | 0.00 | |
| Graham | -37 | -40 | 29 | 22 | 6 400 | 23 | 90 | 750 | 2.4 | 0.3 | 1.74 | 1.50 | 0.21 | 0.25 | 0.29 | 0 | 0 | 0.00 | |
| Gravenhurst | -26 | -28 | 29 | 22 | 4 800 | 25 | 114 | 1 020 | 2.5 | 0.4 | 1.90 | 1.65 | 0.19 | 0.25 | 0.33 | 1 | 1 | 0.05 | |
| Gravenhurst (Muskoka Airport) | -26 | -28 | 29 | 22 | 4 750 | 25 | 95 | 1 050 | 2.5 | 0.4 | 1.90 | 1.65 | 0.26 | 0.32 | 0.39 | 1 | 1 | 0.05 | |
| Grimsbay | -16 | -18 | 30 | 23 | 3 650 | 23 | 100 | 875 | 0.8 | 0.4 | 0.88 | 0.80 | 0.36 | 0.43 | 0.50 | 1 | 0 | 0.05 | |
| Guelph | -19 | -21 | 29 | 23 | 4 350 | 28 | 105 | 875 | 1.7 | 0.4 | 1.42 | 1.25 | 0.25 | 0.30 | 0.36 | 1 | 0 | 0.05 | |
| Guthrie | -24 | -26 | 29 | 22 | 4 550 | 28 | 95 | 950 | 2.3 | 0.4 | 1.78 | 1.55 | 0.21 | 0.29 | 0.39 | 1 | 1 | 0.05 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

(1) The composite load is 60% of the ground snow load plus the rain load.

(2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | | | |
|---------------------|--------------------|--------|-----------|---------|------------------------|--------------------|-------------------|---------------------|---------------------|-----|---------------------|------|-----------------------|------|-----------|----|--------------|------|----------------|----------------|-------------------------|
| | January | | July 24 & | | | | | | Ground Loads, kPa | | Composite Load, kPa | | 1/10, kPa | | 1/30, kPa | | 1/100, kPa | | z _s | z _v | Zonal velocity ratio, v |
| | 24°, °C | 1°, °C | Dry, °C | Wet, °C | | | | | | | | | | | | | | | | | |
| Haileybury | -32 | -35 | 30 | 21 | 5 600 | 23 | 85 | 820 | 2.2 | 0.4 | 1.72 | 1.50 | 0.32 | 0.39 | 0.49 | 2 | 1 | 0.05 | | | |
| Haldimand (Caledon) | -17 | -19 | 30 | 23 | 3 900 | 23 | 100 | 875 | 1.1 | 0.4 | 1.06 | 0.95 | 0.31 | 0.37 | 0.44 | 1 | 0 | 0.05 | | | |
| Haldimand | | | | | | | | | | | | | | | | | | | | | |
| (Hagersville) | -16 | -18 | 30 | 23 | 4 000 | 25 | 90 | 875 | 1.2 | 0.4 | 1.12 | 1.00 | 0.33 | 0.39 | 0.46 | 1 | 0 | 0.05 | | | |
| Haliburton | -27 | -29 | 29 | 22 | 4 950 | 25 | 85 | 980 | 2.7 | 0.4 | 2.02 | 1.75 | 0.26 | 0.32 | 0.39 | 1 | 1 | 0.05 | | | |
| Halton Hills | | | | | | | | | | | | | | | | | | | | | |
| (Georgetown) | -19 | -21 | 30 | 23 | 4 300 | 28 | 110 | 850 | 1.3 | 0.4 | 1.18 | 1.05 | 0.27 | 0.34 | 0.42 | 1 | 0 | 0.05 | | | |
| Hamilton | -17 | -19 | 31 | 23 | 3 600 | 23 | 100 | 875 | 0.8 | 0.4 | 0.88 | 0.80 | 0.36 | 0.43 | 0.50 | 1 | 0 | 0.05 | | | |
| Hanover . | -19 | -21 | 30 | 22 | 4 600 | 28 | 100 | 1 050 | 2.4 | 0.4 | 1.84 | 1.60 | 0.34 | 0.43 | 0.54 | 1 | 0 | 0.05 | | | |
| Hastings | -23 | -26 | 30 | 23 | 4 450 | 28 | 85 | 840 | 1.8 | 0.4 | 1.48 | 1.30 | 0.29 | 0.37 | 0.47 | 1 | 1 | 0.05 | | | |
| Hawkesbury | -25 | -27 | 30 | 23 | 4 750 | 23 | 95 | 925 | 2.1 | 0.4 | 1.66 | 1.45 | 0.31 | 0.37 | 0.45 | 4 | 2 | 0.10 | | | |
| Hearst . | -34 | -36 | 28 | 21 | 6 500 | 20 | 75 | 825 | 2.6 | 0.3 | 1.86 | 1.60 | 0.20 | 0.25 | 0.32 | 0 | 0 | 0.00 | | | |
| Honey | | | | | | | | | | | | | | | | | | | | | |
| Harbour | -24 | -26 | 29 | 22 | 4 300 | 23 | 90 | 1 050 | 2.5 | 0.4 | 1.90 | 1.65 | 0.25 | 0.34 | 0.45 | 1 | 1 | 0.05 | | | |
| Hornepayne | -37 | -40 | 28 | 21 | 6 500 | 20 | 90 | 750 | 3.3 | 0.4 | 2.38 | 2.05 | 0.19 | 0.25 | 0.31 | 0 | 0 | 0.00 | | | |
| Huntsville | -26 | -29 | 29 | 22 | 4 900 | 25 | 95 | 1 000 | 2.7 | 0.4 | 2.02 | 1.75 | 0.26 | 0.32 | 0.39 | 1 | 1 | 0.05 | | | |
| Ingersoll | -18 | -20 | 30 | 23 | 4 100 | 28 | 100 | 950 | 1.6 | 0.4 | 1.36 | 1.20 | 0.33 | 0.43 | 0.54 | 0 | 0 | 0.00 | | | |
| Iroquois Falls . | -33 | -36 | 29 | 21 | 6 300 | 20 | 80 | 825 | 2.7 | 0.3 | 1.92 | 1.65 | 0.30 | 0.37 | 0.45 | 1 | 0 | 0.05 | | | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | | | |

Notes:

(1) The composite load is 60% of the ground snow load plus the rain load.

(2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Precpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | |
|--------------------|--------------------|-----------|------------|------------|---------------------------------|-----------------------------|----------------------------|--------------------------------|---------------------------------|---------------------------------|---|---|--------------------------|--------------|---------------|----------------|----------------|----------------------------------|--|
| | January | | July 2½ ° | | | | | | Ground Loads, kPa | | Composite Load, kPa | | 1/10, kPa | 1/30, kPa | 1/100, kPa | z _s | z _v | Zonal velocity ratio, v | |
| | 2½, °C | 1½, °C | Dry, °C | Wet, °C | | | | | Snow S _s , kPa | Rain S _r , kPa | Part 9, 0.6 ⁽¹⁾ , kPa | Part 9, 0.5 ⁽²⁾ , kPa | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| Jelicoe | -36 | -39 | 28 | 21 | 6 600 | 20 | 80 | 750 | 2.5 | 0.4 | 1.90 | 1.65 | 0.21 | 0.25 | 0.29 | 0 | 0 | 0.00 | |
| Kapuskasing | -33 | -35 | 28 | 21 | 6 450 | 20 | 80 | 825 | 2.6 | 0.3 | 1.86 | 1.60 | 0.23 | 0.28 | 0.34 | 0 | 0 | 0.00 | |
| Kemptville | -25 | -27 | 30 | 23 | 4 650 | 25 | 80 | 925 | 2.1 | 0.4 | 1.66 | 1.45 | 0.30 | 0.37 | 0.46 | 4 | 2 | 0.10 | |
| Kenora | -33 | -36 | 28 | 22 | 5 850 | 25 | 105 | 630 | 2.1 | 0.3 | 1.56 | 1.35 | 0.23 | 0.28 | 0.34 | 0 | 0 | 0.00 | |
| Killaloe | -28 | -31 | 30 | 22 | 5 100 | 23 | 80 | 825 | 2.5 | 0.4 | 1.90 | 1.65 | 0.26 | 0.32 | 0.39 | 3 | 1 | 0.05 | |
| Kincardine | -17 | -19 | 28 | 22 | 4 100 | 23 | 85 | 950 | 2.4 | 0.4 | 1.84 | 1.60 | 0.40 | 0.50 | 0.62 | 0 | 0 | 0.00 | |
| Kingston | -22 | -24 | 27 | 23 | 4 300 | 23 | 105 | 950 | 1.9 | 0.4 | 1.54 | 1.35 | 0.35 | 0.43 | 0.52 | 2 | 1 | 0.05 | |
| Kinmount | -26 | -28 | 29 | 22 | 4 800 | 25 | 100 | 950 | 2.5 | 0.4 | 1.90 | 1.65 | 0.26 | 0.32 | 0.39 | 1 | 1 | 0.05 | |
| Kirkland Lake | -33 | -36 | 30 | 21 | 6 100 | 20 | 95 | 875 | 2.7 | 0.3 | 1.92 | 1.65 | 0.29 | 0.37 | 0.46 | 1 | 1 | 0.05 | |
| Kitchener | -19 | -21 | 29 | 23 | 4 250 | 28 | 110 | 925 | 1.8 | 0.4 | 1.48 | 1.30 | 0.27 | 0.34 | 0.42 | 1 | 0 | 0.05 | |
| Lakefield | -24 | -26 | 30 | 23 | 4 550 | 28 | 85 | 850 | 2.0 | 0.4 | 1.60 | 1.40 | 0.27 | 0.34 | 0.43 | 1 | 1 | 0.05 | |
| Lansdowne House | -39 | -41 | 28 | 21 | 7 150 | 18 | 90 | 680 | 2.7 | 0.2 | 1.82 | 1.55 | 0.24 | 0.29 | 0.35 | 0 | 0 | 0.00 | |
| Leamington | -15 | -17 | 31 | 24 | 3 600 | 28 | 105 | 875 | 0.7 | 0.4 | 0.82 | 0.75 | 0.35 | 0.43 | 0.52 | 0 | 0 | 0.00 | |
| Lindsay | -24 | -26 | 30 | 23 | 4 550 | 25 | 95 | 850 | 2.1 | 0.4 | 1.66 | 1.45 | 0.26 | 0.34 | 0.43 | 1 | 1 | 0.05 | |
| Lion's Head | -19 | -21 | 27 | 22 | 4 300 | 25 | 100 | 950 | 2.5 | 0.4 | 1.90 | 1.65 | 0.33 | 0.43 | 0.54 | 1 | 0 | 0.05 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

(1) The composite load is 60% of the ground snow load plus the rain load.

(2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | |
|--------------------------|--------------------|--------|-----------|---------|------------------------|--------------------|-------------------|---------------------|---------------------------|---------------------------|---------------------|-----------|-----------------------|------------|----------------|----------------|-------------------------|----------------------------------|----------------------------------|
| | January | | July 2½ ° | | | | | | Ground Loads, kPa | | Composite Load, kPa | 1/10, kPa | 1/30, kPa | 1/100, kPa | z _s | z _v | Zonal velocity ratio, v | | |
| | 2½°, °C | 1½, °C | Dry, °C | Wet, °C | | | | | Snow S _s , kPa | Rain S _r , kPa | | | | | | | | Part 9, 0.6 ^(u) , kPa | Part 9, 0.5 ^(a) , kPa |
| | | | | | | | | | | | | | | | | | | | |
| Listowel | -19 | -21 | 29 | 23 | 4 500 | 30 | 110 | 1 000 | 2.4 | 0.4 | 1.84 | 1.60 | 0.34 | 0.43 | 0.53 | 1 | 0 | 0.05 | |
| London | -18 | -20 | 30 | 23 | 4 150 | 28 | 95 | 975 | 1.7 | 0.4 | 1.42 | 1.25 | 0.36 | 0.48 | 0.61 | 0 | 0 | 0.00 | |
| Lucan | -17 | -19 | 30 | 23 | 4 150 | 25 | 105 | 1 000 | 2.1 | 0.4 | 1.66 | 1.45 | 0.39 | 0.50 | 0.63 | 0 | 0 | 0.00 | |
| Maitland | -23 | -25 | 29 | 23 | 4 200 | 25 | 95 | 975 | 2.0 | 0.4 | 1.60 | 1.40 | 0.32 | 0.39 | 0.49 | 3 | 1 | 0.05 | |
| Markdale | -20 | -22 | 29 | 22 | 4 600 | 28 | 95 | 1 050 | 3.1 | 0.4 | 2.26 | 1.95 | 0.29 | 0.37 | 0.47 | 1 | 0 | 0.05 | |
| Markham | -20 | -22 | 31 | 24 | 4 200 | 25 | 80 | 825 | 1.2 | 0.4 | 1.12 | 1.00 | 0.39 | 0.48 | 0.59 | 1 | 0 | 0.05 | |
| Martin | -36 | -39 | 29 | 22 | 6 200 | 25 | 95 | 750 | 2.4 | 0.3 | 1.74 | 1.50 | 0.21 | 0.25 | 0.29 | 0 | 0 | 0.00 | |
| Matheson | -33 | -36 | 29 | 21 | 6 250 | 20 | 80 | 825 | 2.6 | 0.3 | 1.86 | 1.60 | 0.30 | 0.37 | 0.46 | 1 | 1 | 0.05 | |
| Mattawa | -29 | -31 | 30 | 22 | 5 300 | 23 | 80 | 875 | 1.9 | 0.4 | 1.54 | 1.35 | 0.24 | 0.29 | 0.35 | 3 | 1 | 0.05 | |
| Midland | -23 | -26 | 29 | 22 | 4 300 | 25 | 90 | 1 060 | 2.5 | 0.4 | 1.90 | 1.65 | 0.25 | 0.34 | 0.45 | 1 | 1 | 0.05 | |
| Milton | -18 | -20 | 30 | 23 | 4 100 | 25 | 110 | 850 | 1.2 | 0.4 | 1.12 | 1.00 | 0.32 | 0.39 | 0.48 | 1 | 0 | 0.05 | |
| Milverton | -19 | -21 | 29 | 23 | 4 450 | 30 | 100 | 1 050 | 2.2 | 0.4 | 1.72 | 1.50 | 0.31 | 0.39 | 0.49 | 1 | 0 | 0.05 | |
| Minden | -26 | -29 | 29 | 22 | 4 900 | 25 | 90 | 1 010 | 2.5 | 0.4 | 1.90 | 1.65 | 0.26 | 0.32 | 0.39 | 1 | 1 | 0.05 | |
| Mississauga | -18 | -20 | 30 | 23 | 3 950 | 25 | 105 | 800 | 1.0 | 0.4 | 1.00 | 0.90 | 0.37 | 0.45 | 0.55 | 1 | 0 | 0.05 | |
| Mississauga (PortCredit) | -18 | -20 | 30 | 23 | 3 800 | 25 | 100 | 800 | 0.8 | 0.4 | 0.88 | 0.80 | 0.37 | 0.45 | 0.55 | 1 | 0 | 0.05 | |
| Mitchell | -18 | -20 | 29 | 23 | 4 400 | 28 | 105 | 1 050 | 2.2 | 0.4 | 1.72 | 1.50 | 0.35 | 0.45 | 0.57 | 0 | 0 | 0.00 | |
| Moosonee | -36 | -38 | 28 | 21 | 7 100 | 18 | 75 | 700 | 2.0 | 0.3 | 1.50 | 1.30 | 0.26 | 0.32 | 0.39 | 0 | 0 | 0.00 | |
| Morrisburg | -23 | -25 | 30 | 23 | 4 550 | 25 | 100 | 950 | 2.1 | 0.4 | 1.66 | 1.45 | 0.30 | 0.37 | 0.46 | 4 | 2 | 0.10 | |
| Mount Forest | -21 | -23 | 29 | 22 | 4 750 | 30 | 95 | 940 | 2.5 | 0.4 | 1.90 | 1.65 | 0.29 | 0.37 | 0.47 | 1 | 0 | 0.05 | |
| Nakina | -35 | -37 | 28 | 21 | 6 900 | 20 | 80 | 750 | 2.6 | 0.4 | 1.96 | 1.70 | 0.21 | 0.25 | 0.30 | 0 | 0 | 0.00 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

(1) The composite load is 60% of the ground snow load plus the rain load.

(2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind pressures | | | | Seismic Data | | |
|-------------------------|--------------------|--------|-----------|---------|------------------------|--------------------|-------------------|---------------------|---------------------|-----|---------------------|------|-----------------------|-----------|------------|----------------|----------------|-------------------------|--|
| | January | | July 2½ % | | | | | | Ground Loads, kPa | | Composite Load, kPa | | 1/10, kPa | 1/30, kPa | 1/100, kPa | z _s | z _v | Zonal velocity ratio, v | |
| | 2½%, °C | 1½, °C | Dry, °C | Wet, °C | | | | | | | | | | | | | | | |
| Nanticoke (Jarvis) | -16 | -18 | 30 | 23 | 4 000 | 28 | 100 | 900 | 1.3 | 0.4 | 1.18 | 1.05 | 0.33 | 0.39 | 0.47 | 1 | 0 | 0.05 | |
| Nanticoke (PortDover) | -15 | -17 | 30 | 24 | 3 900 | 25 | 100 | 950 | 1.1 | 0.4 | 1.06 | 0.95 | 0.36 | 0.43 | 0.51 | 1 | 0 | 0.05 | |
| Napanee | -22 | -24 | 28 | 23 | 4 250 | 23 | 85 | 900 | 1.7 | 0.4 | 1.42 | 1.25 | 0.32 | 0.39 | 0.48 | 2 | 1 | 0.05 | |
| Newcastle | -20 | -22 | 30 | 23 | 4 200 | 23 | 80 | 830 | 1.4 | 0.4 | 1.24 | 1.10 | 0.46 | 0.55 | 0.65 | 1 | 1 | 0.05 | |
| Newcastle (Bowmanville) | -20 | -22 | 30 | 23 | 4 200 | 23 | 80 | 830 | 1.3 | 0.4 | 1.18 | 1.05 | 0.46 | 0.55 | 0.66 | 1 | 1 | 0.05 | |
| NewLiskeard | -32 | -35 | 30 | 21 | 5 700 | 23 | 85 | 810 | 2.1 | 0.4 | 1.66 | 1.45 | 0.31 | 0.39 | 0.49 | 2 | 1 | 0.05 | |
| Newmarket | -22 | -24 | 30 | 23 | 4 400 | 28 | 100 | 800 | 1.8 | 0.4 | 1.48 | 1.30 | 0.26 | 0.34 | 0.44 | 1 | 1 | 0.05 | |
| Niagara Falls | -16 | -18 | 30 | 23 | 3 700 | 23 | 95 | 950 | 1.8 | 0.4 | 1.48 | 1.30 | 0.33 | 0.39 | 0.47 | 2 | 0 | 0.05 | |
| North Bay | -28 | -30 | 28 | 21 | 5 300 | 28 | 90 | 975 | 2.0 | 0.4 | 1.60 | 1.40 | 0.26 | 0.31 | 0.37 | 2 | 1 | 0.05 | |
| Norwood | -24 | -26 | 30 | 23 | 4 500 | 28 | 85 | 850 | 1.9 | 0.4 | 1.54 | 1.35 | 0.29 | 0.37 | 0.47 | 1 | 1 | 0.05 | |
| Oakville | -18 | -20 | 30 | 23 | 3 800 | 23 | 90 | 850 | 0.8 | 0.4 | 0.88 | 0.80 | 0.37 | 0.45 | 0.54 | 1 | 0 | 0.05 | |
| Orangeville | -21 | -23 | 29 | 23 | 4 600 | 30 | 100 | 875 | 2.1 | 0.4 | 1.66 | 1.45 | 0.25 | 0.32 | 0.41 | 1 | 0 | 0.05 | |
| Orillia | -25 | -27 | 29 | 22 | 4 600 | 25 | 95 | 1 000 | 2.2 | 0.4 | 1.72 | 1.50 | 0.26 | 0.32 | 0.39 | 1 | 1 | 0.05 | |
| Oshawa | -19 | -21 | 30 | 23 | 4 000 | 23 | 80 | 875 | 1.3 | 0.4 | 1.18 | 1.05 | 0.43 | 0.52 | 0.64 | 1 | 1 | 0.05 | |
| Ottawa | -25 | -27 | 30 | 23 | 4 600 | 23 | 80 | 900 | 2.2 | 0.4 | 1.72 | 1.50 | 0.30 | 0.37 | 0.46 | 4 | 2 | 0.10 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

(1) The composite load is 60% of the ground snow load plus the rain load.

(2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | |
|------------------|--------------------|--------|-----------|---------|------------------------|--------------------|-------------------|---------------------|--------------------------|--------------------------|----------------------------------|----------------------------------|--------------------------------------|------|------|------|---|------|--|
| | January | | July 2½ % | | | | | | Ground Loads, kPa | | Composite Load, kPa | | 1/10, kPa 1/30, kPa 1/100, kPa | | | | z _s z _v Zonal velocity ratio, v | | |
| | 2½%, °C | 1½, °C | Dry, °C | Wet, °C | | | | | | | | | | | | | | | |
| | | | | | | | | | Snow S _s , °C | Rain S _r , °C | Part 9, 0.6 ⁽¹⁾ , kPa | Part 9, 0.5 ⁽²⁾ , kPa | | | | | | | |
| Owen Sound | -19 | -21 | 29 | 22 | 4 250 | 28 | 110 | 1 075 | 2.6 | 0.4 | 1.96 | 1.70 | 0.33 | 0.43 | 0.55 | 1 | 0 | 0.05 | |
| Pagwa River | -34 | -36 | 28 | 21 | 6 600 | 20 | 90 | 825 | 2.2 | 0.4 | 1.72 | 1.50 | 0.19 | 0.25 | 0.31 | 0 | 0 | 0.00 | |
| Paris . . | -17 | -19 | 30 | 23 | 4 100 | 23 | 85 | 925 | 1.3 | 0.4 | 1.18 | 1.05 | 0.31 | 0.37 | 0.45 | 1 | 0 | 0.05 | |
| Parkhill | -16 | -18 | 31 | 23 | 4 000 | 23 | 95 | 925 | 1.9 | 0.4 | 1.54 | 1.35 | 0.40 | 0.50 | 0.61 | 0 | 0 | 0.00 | |
| Parry Sound | -24 | -26 | 28 | 21 | 4 700 | 23 | 95 | 1 050 | 2.6 | 0.4 | 1.96 | 1.70 | 0.24 | 0.34 | 0.46 | 1 | 1 | 0.05 | |
| Pelham | | | | | | | | | | | | | | | | | | | |
| (Fonthill) | -15 | -17 | 30 | 23 | 3 800 | 23 | 95 | 950 | 2.1 | 0.4 | 1.66 | 1.45 | 0.33 | 0.39 | 0.46 | 1 | 0 | 0.05 | |
| Pembroke | -28 | -31 | 30 | 22 | 5 000 | 23 | 100 | 825 | 2.3 | 0.4 | 1.78 | 1.55 | 0.26 | 0.32 | 0.39 | 4 | 2 | 0.10 | |
| Penetang-uisheue | -23 | -26 | 29 | 22 | 4 300 | 25 | 90 | 1 050 | 2.6 | 0.4 | 1.96 | 1.70 | 0.25 | 0.34 | 0.45 | 1 | 1 | 0.05 | |
| Perth . . | -25 | -27 | 30 | 23 | 4 650 | 25 | 85 | 900 | 2.1 | 0.4 | 1.66 | 1.45 | 0.29 | 0.37 | 0.46 | 3 | 1 | 0.05 | |
| Petawawa | -29 | -31 | 30 | 22 | 5 150 | 23 | 85 | 825 | 2.4 | 0.4 | 1.84 | 1.60 | 0.26 | 0.32 | 0.39 | 4 | 2 | 0.10 | |
| Peterborough | -23 | -25 | -25 | 30 | 23 | 4 400 | 28 | 85 | 840 | 1.8 | 0.4 | 1.48 | 1.30 | 0.29 | 0.37 | 0.47 | 1 | 0.05 | |
| Petrolia | -16 | -18 | -18 | 31 | 24 | 3 850 | 25 | 100 | 920 | 1.2 | 0.4 | 1.12 | 1.00 | 0.35 | 0.43 | 0.52 | 0 | 0.00 | |
| Pickering | | | | | | | | | | | | | | | | | | | |
| (Dunbarton) | -19 | -21 | -21 | 30 | 23 | 4 000 | 23 | 85 | 825 | 0.9 | 0.4 | 0.94 | 0.85 | 0.43 | 0.52 | 0.64 | 1 | 0.05 | |
| Picton . | -21 | -23 | -23 | 29 | 23 | 4 050 | 23 | 85 | 940 | 1.8 | 0.4 | 1.48 | 1.30 | 0.37 | 0.45 | 0.54 | 1 | 0.05 | |
| Plattsville | -18 | -20 | -20 | 29 | 23 | 4 200 | 28 | 95 | 950 | 1.7 | 0.4 | 1.42 | 1.25 | 0.30 | 0.37 | 0.46 | 0 | 0.05 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

- (1) The composite load is 60% of the ground snow load plus the rain load.
 (2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | |
|------------------------------|--------------------|--------|-----------|---------|------------------------|--------------------|-------------------|---------------------|---------------------|-----|---------------------|------|-----------------------|----------------------|----------------------|----------------------------------|----------------------------------|-------------------------|--|
| | January | | July 2½ % | | | | | | Ground Loads, kPa | | Composite Load, kPa | | 1/10, kPa | 1/30, kPa | 1/100, kPa | z _s | z _w | Zonal velocity ratio, v | |
| | 2½%, °C | 1½, °C | Dry, °C | Wet, °C | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | S _s , kPa | S _r , kPa | Part 9, 0.6 ⁽¹⁾ , kPa | Part 9, 0.5 ⁽²⁾ , kPa | | |
| Point Alexander | -29 | -32 | 30 | 22 | 5 050 | 23 | 85 | 850 | 2.3 | 0.4 | 1.78 | 1.55 | 0.26 | 0.32 | 0.39 | 4 | 2 | 0.10 | |
| PortBurwell Port | -15 | -17 | 30 | 24 | 4 000 | 25 | 85 | 1 000 | 1.1 | 0.4 | 1.06 | 0.95 | 0.34 | 0.43 | 0.53 | 0 | 0 | 0.00 | |
| Colborne | -15 | -17 | 30 | 24 | 3 750 | 23 | 105 | 1 000 | 2.1 | 0.4 | 1.66 | 1.45 | 0.37 | 0.43 | 0.50 | 1 | 0 | 0.05 | |
| Port Elgin | -17 | -19 | 28 | 22 | 4 250 | 23 | 85 | 850 | 2.6 | 0.4 | 1.96 | 1.70 | 0.40 | 0.50 | 0.62 | 1 | 0 | 0.05 | |
| Port Hope | -21 | -23 | 30 | 23 | 4 050 | 23 | 90 | 825 | 1.1 | 0.4 | 1.06 | 0.95 | 0.46 | 0.55 | 0.65 | 1 | 1 | 0.05 | |
| Port Perry | -22 | -24 | 30 | 23 | 4 350 | 25 | 90 | 850 | 2.2 | 0.4 | 1.72 | 1.50 | 0.31 | 0.39 | 0.50 | 1 | 1 | 0.05 | |
| PortStanley | -15 | -17 | 31 | 24 | 4 000 | 25 | 85 | 975 | 1.1 | 0.4 | 1.06 | 0.95 | 0.34 | 0.43 | 0.53 | 0 | 0 | 0.00 | |
| Prescott | -23 | -25 | 29 | 23 | 4 250 | 25 | 95 | 975 | 2.0 | 0.4 | 1.60 | 1.40 | 0.32 | 0.39 | 0.49 | 3 | 2 | 0.10 | |
| Princeton | -17 | -19 | 29 | 23 | 4 100 | 25 | 90 | 925 | 1.4 | 0.4 | 1.24 | 1.10 | 0.30 | 0.37 | 0.46 | 1 | 0 | 0.05 | |
| Raith . . | -35 | -37 | 28 | 22 | 6 150 | 20 | 90 | 750 | 2.5 | 0.4 | 1.90 | 1.65 | 0.21 | 0.25 | 0.29 | 0 | 0 | 0.00 | |
| Rayside-Balfour (Chelmsford) | -28 | -30 | 29 | 21 | 5 400 | 25 | 85 | 850 | 2.3 | 0.4 | 1.78 | 1.55 | 0.29 | 0.39 | 0.53 | 1 | 0 | 0.05 | |
| Red Lake | -34 | -36 | 28 | 22 | 6 350 | 18 | 80 | 630 | 2.2 | 0.3 | 1.62 | 1.40 | 0.22 | 0.26 | 0.31 | 0 | 0 | 0.00 | |
| Renfrew . | -27 | -30 | 30 | 23 | 4 900 | 23 | 95 | 810 | 2.3 | 0.4 | 1.78 | 1.55 | 0.26 | 0.32 | 0.39 | 4 | 2 | 0.10 | |
| Richmond Hill . . | -20 | -22 | 31 | 24 | 4 200 | 25 | 90 | 850 | 1.4 | 0.4 | 1.24 | 1.10 | 0.39 | 0.48 | 0.59 | 1 | 0 | 0.05 | |
| Rockland | -26 | -28 | 30 | 23 | 4 800 | 23 | 85 | 950 | 2.2 | 0.4 | 1.72 | 1.50 | 0.30 | 0.37 | 0.45 | 4 | 2 | 0.10 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

(1) The composite load is 60% of the ground snow load plus the rain load.

(2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | |
|-------------------|--------------------|---------|-----------|---------|------------------------|--------------------|-------------------|---------------------|---------------------|---------------------------|---------------------------|-------------------|-----------------------|-----------|------------|----------------|----------------|-------------------------|--|
| | January | | July 2½ ° | | | | | | Ground Loads, kPa | | Composite Load, kPa | | 1/10, kPa | 1/30, kPa | 1/100, kPa | z _a | z _v | Zonal velocity ratio, v | |
| | 2½°, °C | 1½°, °C | Dry, °C | Wet, °C | | | | | | | | | | | | | | | |
| | | | | | | | | | | Snow S _s , kPa | Rain S _r , kPa | Part 9, 0.6w, kPa | Part 9, 0.5w, kPa | | | | | | |
| Sarnia | -16 | -18 | 31 | 23 | 3 950 | 23 | 95 | 825 | 1.0 | 0.4 | 1.00 | 0.90 | 0.35 | 0.43 | 0.52 | 0 | 0 | 0.00 | |
| Sault Ste. Marie | -25 | -28 | 29 | 21 | 5 100 | 25 | 95 | 950 | 2.8 | 0.4 | 2.08 | 1.80 | 0.32 | 0.37 | 0.43 | 0 | 0 | 0.00 | |
| Schreiber | -35 | -38 | 27 | 21 | 6 200 | 20 | 100 | 850 | 3.0 | 0.4 | 2.20 | 1.90 | 0.30 | 0.36 | 0.43 | 0 | 0 | 0.00 | |
| Seaforth | -17 | -19 | 30 | 23 | 4 300 | 25 | 100 | 1 025 | 2.3 | 0.4 | 1.78 | 1.55 | 0.37 | 0.48 | 0.60 | 0 | 0 | 0.00 | |
| Simcoe | -17 | -19 | 30 | 23 | 4 000 | 28 | 110 | 950 | 1.2 | 0.4 | 1.12 | 1.00 | 0.33 | 0.39 | 0.47 | 1 | 0 | 0.05 | |
| Sioux Lookout | -34 | -36 | 28 | 22 | 6 200 | 28 | 90 | 710 | 2.2 | 0.3 | 1.62 | 1.40 | 0.21 | 0.25 | 0.29 | 0 | 0 | 0.00 | |
| Smith Falls | -25 | -27 | 30 | 23 | 4 600 | 28 | 85 | 850 | 2.1 | 0.4 | 1.66 | 1.45 | 0.29 | 0.37 | 0.46 | 3 | 2 | 0.10 | |
| Smithville | -16 | -18 | 30 | 23 | 3 800 | 23 | 110 | 900 | 1.4 | 0.4 | 1.24 | 1.10 | 0.33 | 0.39 | 0.46 | 1 | 0 | 0.05 | |
| Smooth Rock Falls | -34 | -36 | 29 | 21 | 6 400 | 20 | 85 | 850 | 2.5 | 0.3 | 1.80 | 1.55 | 0.24 | 0.29 | 0.36 | 1 | 0 | 0.05 | |
| Southampton | -17 | -19 | 28 | 22 | 4 250 | 23 | 85 | 830 | 2.5 | 0.4 | 1.90 | 1.65 | 0.38 | 0.48 | 0.59 | 1 | 0 | 0.05 | |
| South River | -27 | -29 | 28 | 21 | 5 200 | 28 | 90 | 975 | 2.6 | 0.4 | 1.96 | 1.70 | 0.23 | 0.29 | 0.36 | 1 | 1 | 0.05 | |
| St. Catharines | -16 | -18 | 30 | 23 | 3 675 | 23 | 85 | 850 | 0.9 | 0.4 | 0.94 | 0.85 | 0.36 | 0.43 | 0.50 | 1 | 0 | 0.05 | |
| St. Marys | -18 | -20 | 30 | 23 | 4 250 | 28 | 100 | 1 025 | 2.0 | 0.4 | 1.60 | 1.40 | 0.35 | 0.45 | 0.58 | 0 | 0 | 0.00 | |
| St. Thomas | -16 | -18 | 31 | 23 | 4 000 | 25 | 100 | 975 | 1.3 | 0.4 | 1.18 | 1.05 | 0.33 | 0.43 | 0.54 | 0 | 0 | 0.00 | |
| Stirling | -23 | -25 | 30 | 23 | 4 450 | 25 | 90 | 850 | 1.6 | 0.4 | 1.36 | 1.20 | 0.28 | 0.36 | 0.46 | 1 | 1 | 0.05 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

(1) The composite load is 60% of the ground snow load plus the rain load.

(2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Days Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | |
|---------------------|--------------------|--------|-----------|---------|------------------------|-------------------------|-------------------|---------------------|---------------------|-----|---------------------|------|-----------------------|----------------------|----------------------|---------------------|---------------------|-------------------------|--|
| | January | | July 2½ % | | | | | | Ground Loads, kPa | | Composite Load, kPa | | 1/10, kPa | 1/30, kPa | 1/100, kPa | z _a | z _v | Zonal velocity ratio, v | |
| | 2½, °C | 1½, °C | Dry, °C | Wet, °C | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | S _s , kPa | S _r , kPa | Part 9, 0.6(u), kPa | Part 9, 0.5(u), kPa | | |
| Stratford | -18 | -20 | 29 | 23 | 4 350 | 28 | 115 | 1 050 | 2.1 | 0.4 | 1.66 | 1.45 | 0.33 | 0.43 | 0.54 | 0 | 0 | 0.00 | |
| Strathroy | -17 | -19 | 31 | 23 | 3 950 | 25 | 95 | 950 | 1.7 | 0.4 | 1.42 | 1.25 | 0.36 | 0.45 | 0.57 | 0 | 0 | 0.00 | |
| Sturgeon Falls | -27 | -29 | 29 | 21 | 5 250 | 28 | 90 | 910 | 2.0 | 0.4 | 1.60 | 1.40 | 0.25 | 0.32 | 0.40 | 1 | 1 | 0.05 | |
| Sudbury | -28 | -30 | 29 | 21 | 5 400 | 25 | 90 | 875 | 2.3 | 0.4 | 1.78 | 1.55 | 0.29 | 0.40 | 0.55 | 1 | 1 | 0.05 | |
| Sundridge | -27 | -29 | 28 | 21 | 5 200 | 28 | 90 | 975 | 2.6 | 0.4 | 1.96 | 1.70 | 0.23 | 0.29 | 0.37 | 2 | 1 | 0.05 | |
| Tavistock | -18 | -20 | 29 | 23 | 4 350 | 28 | 115 | 1 010 | 1.9 | 0.4 | 1.54 | 1.35 | 0.34 | 0.43 | 0.53 | 1 | 0 | 0.05 | |
| Temagami | -30 | -33 | 30 | 21 | 5 400 | 25 | 85 | 875 | 2.4 | 0.4 | 1.84 | 1.60 | 0.27 | 0.34 | 0.42 | 2 | 1 | 0.05 | |
| Thamesford | -18 | -20 | 30 | 23 | 4 200 | 28 | 100 | 975 | 1.7 | 0.4 | 1.42 | 1.25 | 0.33 | 0.43 | 0.55 | 0 | 0 | 0.00 | |
| Thedford | -16 | -18 | 31 | 23 | 3 900 | 23 | 95 | 900 | 1.9 | 0.4 | 1.54 | 1.35 | 0.41 | 0.50 | 0.61 | 0 | 0 | 0.00 | |
| Thunder Bay | -31 | -33 | 28 | 21 | 5 650 | 20 | 100 | 710 | 2.7 | 0.4 | 2.02 | 1.75 | 0.30 | 0.36 | 0.43 | 0 | 0 | 0.00 | |
| Tillsonburg | -17 | -19 | 30 | 23 | 4 000 | 25 | 95 | 980 | 1.2 | 0.4 | 1.12 | 1.00 | 0.31 | 0.39 | 0.50 | 0 | 0 | 0.00 | |
| Timmins | -34 | -36 | 30 | 21 | 6 200 | 18 | 95 | 875 | 2.8 | 0.3 | 1.98 | 1.70 | 0.25 | 0.32 | 0.40 | 1 | 0 | 0.05 | |
| Timmins (Porcupine) | -34 | -36 | 30 | 21 | 6 200 | 18 | 90 | 875 | 2.7 | 0.3 | 1.92 | 1.65 | 0.27 | 0.34 | 0.42 | 1 | 0 | 0.05 | |
| Timmins (South) | -34 | -36 | 30 | 21 | 6 200 | 18 | 76 | 820 | 2.7 | 0.3 | 1.92 | 1.65 | 0.27 | 0.34 | 0.42 | 1 | 0 | 0.05 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

- (1) The composite load is 60% of the ground snow load plus the rain load.
 (2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | | | |
|--------------------------|--------------------|--------|-----------|---------|------------------------|--------------------|-------------------|---------------------|---------------------|-----|---------------------|------|-----------------------|----------------------|----------------------|--------------------------------|--------------|------|----------------|----------------|-------------------------|
| | January | | July 2½ % | | | | | | Ground Loads, kPa | | Composite Load, kPa | | 1/10, kPa | | 1/30, kPa | | 1/100, kPa | | z _s | z _v | Zonal velocity ratio, v |
| | 2½%, °C | 1½, °C | Dry, °C | Wet, °C | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | S _s , kPa | S _r , kPa | Part 9, 0.6 ^m , kPa | Part 9, kPa | | | | |
| Toronto/ Metropolitan | -20 | -22 | 31 | 24 | 4 050 | 26 | 95 | 800 | 1.0 | 0.4 | 1.00 | 0.90 | 0.39 | 0.48 | 0.59 | 1 | 0 | 0.05 | | | |
| Stobicoke | -20 | -22 | 31 | 24 | 4 000 | 25 | 95 | 850 | 1.1 | 0.4 | 1.06 | 0.95 | 0.39 | 0.48 | 0.59 | 1 | 0 | 0.05 | | | |
| North York | -20 | -22 | 31 | 24 | 4 000 | 25 | 85 | 825 | 1.1 | 0.4 | 1.06 | 0.95 | 0.39 | 0.48 | 0.59 | 1 | 0 | 0.05 | | | |
| Scarborough | -20 | -22 | 31 | 24 | 4 000 | 25 | 85 | 825 | 1.1 | 0.4 | 1.06 | 0.95 | 0.39 | 0.48 | 0.59 | 1 | 0 | 0.05 | | | |
| Toronto | -18 | -20 | 31 | 23 | 3 650 | 25 | 90 | 820 | 0.8 | 0.4 | 0.88 | 0.80 | 0.39 | 0.48 | 0.58 | 1 | 0 | 0.05 | | | |
| Trenton | -21 | -23 | 29 | 23 | 4 250 | 23 | 95 | 850 | 1.5 | 0.4 | 1.30 | 1.15 | 0.35 | 0.43 | 0.52 | 1 | 1 | 0.05 | | | |
| Trout Creek | -27 | -29 | 28 | 21 | 5 300 | 28 | 95 | 975 | 2.5 | 0.4 | 1.90 | 1.65 | 0.24 | 0.29 | 0.36 | 2 | 1 | 0.05 | | | |
| Uxbridge | -22 | -24 | 30 | 23 | 4 400 | 25 | 95 | 850 | 2.2 | 0.4 | 1.72 | 1.50 | 0.29 | 0.37 | 0.48 | 1 | 1 | 0.05 | | | |
| Vaughan (Woodbridge) | -20 | -22 | 31 | 24 | 4 250 | 26 | 105 | 800 | 1.0 | 0.4 | 1.00 | 0.90 | 0.39 | 0.48 | 0.59 | 1 | 0 | 0.05 | | | |
| Vittoria | -15 | -17 | 30 | 24 | 3 925 | 25 | 115 | 950 | 1.2 | 0.4 | 1.12 | 1.00 | 0.35 | 0.43 | 0.52 | 1 | 0 | 0.05 | | | |
| Walkerton | -18 | -20 | 30 | 22 | 4 500 | 28 | 105 | 1 025 | 2.5 | 0.4 | 1.90 | 1.65 | 0.35 | 0.45 | 0.57 | 1 | 0 | 0.05 | | | |
| Wallaceburg | -16 | -18 | 31 | 24 | 3 700 | 28 | 90 | 825 | 0.8 | 0.4 | 0.88 | 0.80 | 0.32 | 0.39 | 0.48 | 0 | 0 | 0.00 | | | |
| Waterloo | -19 | -21 | 29 | 23 | 4 300 | 28 | 110 | 925 | 1.8 | 0.4 | 1.48 | 1.30 | 0.27 | 0.34 | 0.42 | 1 | 0 | 0.05 | | | |
| Watford . | -16 | -18 | 31 | 24 | 3 900 | 25 | 100 | 950 | 1.7 | 0.4 | 1.42 | 1.25 | 0.34 | 0.43 | 0.53 | 0 | 0 | 0.00 | | | |
| Wawa . . | -35 | -38 | 26 | 21 | 5 800 | 20 | 95 | 950 | 3.8 | 0.4 | 2.68 | 2.30 | 0.30 | 0.36 | 0.43 | 0 | 0 | 0.00 | | | |
| Welland . | -15 | -17 | 30 | 23 | 3 800 | 23 | 95 | 975 | 2.0 | 0.4 | 1.60 | 1.40 | 0.33 | 0.39 | 0.47 | 1 | 0 | 0.05 | | | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | | | |

Notes:

- (1) The composite load is 60% of the ground snow load plus the rain load.
 (2) The composite load is 50% of the ground snow load plus the rain load.

Table 2.5.1.1. (Cont'd)

Design Data For Selected Locations in Ontario

Forming part of Sentence 2.5.1.1.(1)

| Location | Design Temperature | | | | Degree Days Below 18°C | 15 Min., Rain., mm | One Day Rain., mm | Ann. Tot. Pcpn., mm | Snow and Rain Loads | | | | Hourly Wind Pressures | | | | Seismic Data | | |
|-------------|--------------------|--------|-----------|---------|------------------------|--------------------|-------------------|---------------------|---------------------|-----|---------------------|------|-----------------------|-----------|------------|----------------|----------------|-------------------------|--|
| | January | | July 2½ % | | | | | | Ground Loads, kPa | | Composite Load, kPa | | 1/10, kPa | 1/30, kPa | 1/100, kPa | z _a | z _v | Zonal velocity ratio, v | |
| | 2½%, °C | 1½, °C | Dry, °C | Wet, °C | | | | | | | | | | | | | | | |
| West Lorne | -16 | -18 | 31 | 24 | 3 850 | 28 | 95 | 900 | 1.2 | 0.4 | 1.12 | 1.00 | 0.34 | 0.43 | 0.53 | 0 | 0 | 0.00 | |
| Whitby | -20 | -22 | 30 | 23 | 4 000 | 23 | 80 | 850 | 1.1 | 0.4 | 1.06 | 0.95 | 0.43 | 0.52 | 0.64 | 1 | 1 | 0.05 | |
| Whitby | | | | | | | | | | | | | | | | | | | |
| (Brooklin) | -20 | -22 | 30 | 23 | 4 200 | 23 | 80 | 850 | 1.7 | 0.4 | 1.42 | 1.25 | 0.38 | 0.48 | 0.59 | 1 | 1 | 0.05 | |
| White River | -39 | -42 | 28 | 21 | 6 400 | 20 | 85 | 825 | 4.1 | 0.4 | 2.86 | 2.45 | 0.21 | 0.25 | 0.30 | 0 | 0 | 0.00 | |
| Warton . | -18 | -20 | 28 | 22 | 4 500 | 25 | 105 | 1 000 | 2.5 | 0.4 | 1.90 | 1.65 | 0.33 | 0.43 | 0.55 | 1 | 0 | 0.05 | |
| | | | | | | | | | | | | | | | | | | | |
| Windsor . | -16 | -18 | 31 | 24 | 3 600 | 28 | 95 | 900 | 0.7 | 0.4 | 0.82 | 0.75 | 0.36 | 0.43 | 0.52 | 0 | 0 | 0.00 | |
| Wingham . | -18 | -20 | 30 | 23 | 4 350 | 28 | 100 | 1 050 | 2.4 | 0.4 | 1.84 | 1.60 | 0.35 | 0.45 | 0.57 | 0 | 0 | 0.00 | |
| Woodstock | -18 | -20 | 29 | 23 | 4 100 | 28 | 105 | 930 | 1.7 | 0.4 | 1.42 | 1.25 | 0.31 | 0.39 | 0.50 | 1 | 0 | 0.05 | |
| Wyoming . | -16 | -18 | 31 | 24 | 3 850 | 25 | 95 | 900 | 1.5 | 0.4 | 1.30 | 1.15 | 0.35 | 0.43 | 0.52 | 0 | 0 | 0.00 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |

Notes:

(1) The composite load is 60% of the ground snow load plus the rain load.

(2) The composite load is 50% of the ground snow load plus the rain load.

Section 2.6. Referenced Documents**2.6.1. Application****2.6.1.1. Limitation**

(1) The provisions of referenced documents in this Code apply only to the extent that they relate to *buildings* or to structures designated in Subsection 2.1.2.

2.6.2. Conflicting Requirements**2.6.2.1. Governing Documents**

(1) In the case of conflict between the provisions of this Code and those of a referenced document, the provisions of this Code shall govern.

2.6.3. Effective Date**2.6.3.1. Edition of Standard**

(1) Unless otherwise specified herein, the documents referenced in this Code shall include all amendments, revisions and supplements effective to September 1, 1997.

2.6.3.2. Designated Editions

(1) Where documents are referenced in this Code, they shall be in the editions designated in Column 2 of Table 2.6.3.2.

Table 2.6.3.2.**Documents Referenced in the Ontario Building Code**

Forming Part of Sentence 2.6.3.2.(1)

| Issuing Agency | Document Number | Title of Document | Code Reference |
|-----------------|-----------------|---|---|
| ANSI/ ASME | B16.3-1992 | Malleable Iron Threaded Fittings (Classes 150 and 300) | 7.2.6.6.(1) |
| ANSI/ ASME | B16.4-1992 | Cast Iron Threaded Fittings (Classes 125 and 250) | 7.2.6.5.(1) Table 7.2.11.2. |
| ANSI/ ASME | B16.12-1991 | Cast Iron Threaded Drainage Fittings | 7.2.6.3.(1) |
| ANSI/ ASME | B16.15-1985 | Cast Bronze Threaded Fittings (Classes 125 and 250) | 7.2.7.3.(1) |
| ANSI | B16.18-1984 | Cast Copper Alloy Solder Joint Pressure Fittings | 7.2.7.6.(1) 7.2.7.6.(2) Table 7.2.11.2. |
| ANSI/ ASME | B16.22-1989 | Wrought Copper and Copper Alloy Solder Joint Pressure Fittings | 7.2.7.6.(1) |
| ANSI/ ASME | B16.24-1991 | Bronze Pipe Flanges and Flanged Fittings (Class 150 and 300) | 7.2.7.2.(1) |
| ANSI/ ASME | B16.26-1988 | Cast Copper Alloy Fittings for Flared Copper Tubes | 7.2.7.7.(1) 7.2.7.7.(2) Table 7.2.11.2. |
| ANSI/ ASME | B16.29-1986 | Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV | 7.2.7.5.(1) |
| ANSI | B18.6.1-1981 | Slotted and Recessed Wood Screws (Inch Series) | 9.23.3.1.(2) |
| ANSI | Z21.22-1986 | Relief Valves and Automatic Shut-off Devices for Hot Water Supply Systems | 7.2.10.11.(1) |
| ANSI/ ASHRAE | 62-1989 | Ventilation for Acceptable Indoor Air Quality | 6.2.2.1.(2) |
| ANSI/ AWWA | C104/A21.4-90 | Cement-Mortar Lining for Ductile-Iron and Gray-Iron Pipe and Fittings for Water | 7.2.6.4.(2) |
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| ANSI/AWWA | C110/A21.10-93 | Ductile-Iron and Gray-Iron Fittings, 3 in. Through 48 in., for Water and Other Liquids | 7.2.6.4.(3) Table 7.2.11.2. |
| ANSI/AWWA | C111/A21.11- 90 | Rubber-Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings | 7.2.6.4.(4) Table 7.2.11.2. |
| ANSI/AWWA | C151/A21.51- 91 | Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids | 7.2.6.4.(1) Table 7.2.11.2. |
| ASTM | A53-93a | Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless | 7.2.6.7.(4) |
| ASTM | A123-89A | Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products | Table 9.20.16.1. |
| ASTM | A153-82 (1987) | Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware | Table 9.20.16.1. |
| ASTM | A252-93 | Welded and Seamless Steel Pipe Piles | 4.2.3.8.(1) |
| ASTM | A283/A283M-93a | Low and Intermediate Tensile Strength Carbon Steel Plates, Shapes, and Bars | 4.2.3.8.(1) |
| ASTM | A518M-92 | Specification for Corrosion-Resistant High-Silicon Iron Castings | 7.2.8.1.(1) |
| ASTM | A570/A570M-93 | Hot-Rolled Carbon Steel Sheet and Strip, Structural Quality | 4.2.3.8.(1) |
| ASTM | A611-94 | Steel, Cold-Rolled Sheet, Carbon Structural | 4.2.3.8.(1) |
| ASTM | A653-94 | Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanealed) by the Hot-Dip Process | 9.3.3.2.(1) |
| ASTM | A924-94 | Steel Sheet, Metallic-Coated by the Hot-Dip Process | 9.3.3.2.(1) |
| ASTM | B32-94 | Solder Metal | 7.2.9.2.(2) |
| ASTM | B42-93 | Seamless Copper Pipe, Standard Sizes | 7.2.7.1.(1) |
| ASTM | B43-94 | Seamless Red Brass Pipe, Standard Sizes | 7.2.7.1.(2) |
| ASTM | B68-92 | Seamless Copper Tube, Bright, Annealed | 7.2.7.4.(3) |
| ASTM | B88-93a | Seamless Copper Water Tube | 7.2.7.4.(1) Table 7.2.11.2. |
| ASTM | B306-92 | Copper Drainage Tube (DWV) | 7.2.7.4.(1) |
| ASTM | C4-62 (1991) | Clay Drain Tile | 9.14.3.1.(1) |
| ASTM | C5-79 (1992) | Quicklime for Structural Purposes | 9.20.3.1.(1) |
| ASTM | C27-93 | Classification for Fire Clay and High Alumina Refractory Brick | 9.21.3.4.(1) |
| ASTM | C36 | Gypsum Wallboard | 3.1.5.11.(4) 9.29.5.2.(1) |
| ASTM | C37 | Gypsum Lath | 9.29.5.2.(1) |
| ASTM | C126-94 | Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units | 9.20.2.1.(1) |
| ASTM | C207-91 (1992) | Hydrated Lime for Masonry Purposes | 9.20.3.1.(1) |
| ASTM | C212-93 | Structural Clay Facing Tile | 9.20.2.1.(1) |
| ASTM | C411-82 (1992) | Hot-Surface Performance of High-Temperature Thermal Insulation | 6.2.3.4.(3) 6.2.9.2.(2) |
| ASTM | C412M-94 | Concrete Drain Tile | 9.14.3.1.(1) |
| ASTM | C442 | Gypsum Backing Board and Coreboard | 3.1.5.11.(4) 9.29.5.2.(1) |
| ASTM | C444M-94 | Perforated Concrete Pipe (Metric) | 9.14.3.1.(1) |
| ASTM | C588 | Gypsum Base for Veneer Plaster | 9.29.5.2.(1) 3.1.5.11.(4) |
| ASTM | C630 | Water Resistant Gypsum Board Backing | 3.1.5.11.(4) 9.29.5.2.(1) |
| ASTM | C700-91 | Vitrified Clay Pipe, Extra Strength, Standard Strength and Perforated | 9.14.3.1.(1) |
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| ASTM | C931 | Exterior Gypsum Soffit Board | 3.1.5.11.(4) 9.29.5.2.(1) |
| ASTM | C960 | Preddecorated Gypsum Board | 3.1.5.11.(4) 9.29.5.2.(1) |
| ASTM | C1002-93 | Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases | 9.24.1.4. 9.29.5.7. |
| ASTM | C1053-90 | Borosilicate Glass Pipe and Fittings for Drain, Waste and Vent (DWV) Applications | 7.2.8.1.(1) |
| ASTM | D374-94 | Thickness of Solid Electrical Insulation | 3.14.4.1.(1)(c) |
| ASTM | D568-77 | Rate of Burning and/or Extent and Time of Burning of Flexible Plastics in a Vertical Position | 3.14.4.1.(1)(b) 3.3.4.6.(1) 9.11.1.1.(1) |
| ASTM | D635-91 | Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position | 3.14.4.1.(1)(a) |
| ASTM | D2178-89 | Asphalt Glass Felt Used in Roofing and Waterproofing | 5.6.1.2.(1) |
| ASTM | D2898-94 | Test Method for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing | 3.1.5.5.(4) 3.1.5.5.(5) |
| ASTM | D3261-93 | Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing | 7.2.5.5.(3) |
| ASTM | E90-90 | Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions | 3.3.4.6.(1) 9.11.1.1.(1) |
| ASTM | E96-94 | Test Methods for Water Vapour Transmission of Materials | 5.5.1.2.(4) |
| ASTM | E283-91 | Standard Test Method for Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors | 9.6.5.4.(1) 9.6.5.5.(1) 9.7.1.7.(1) 9.38.6.1.(1) |
| ASTM | E336-90 | Measurement of Airborne Sound Insulation in Buildings | 3.3.4.6.(1) 9.11.1.1.(1) |
| ASTM | E413-1994 | Classification for Rating Sound Insulation | 3.3.4.6.(1) 9.11.1.1.(1) |
| ASTM | F476-1991 | Standard Test Methods For Security of Swinging Door Assemblies | 9.6.8.10.(1) |
| AWPA | M4-91 | Care of Preservative-Treated Wood Products | 4.2.3.2.(2) |
| BNQ | NQ3624-115-1991 | Thermo-Plastic Pipe-Flexible Corrugated Tubing and Fitting for Soil Drainage | 9.14.3.1.(1) |
| CGA | CAN1-4.4-M80 | Temperature, Pressure, Temperature and Pressure Relief Valves and Vacuum Relief Valves | 7.2.10.11.(1) |
| CGA | CAN/CGA-6.19-M93 | Residential Carbon Monoxide Detectors | 9.32.3.8.(3) |
| CGSB | CAN/CGSB-1.501-M89 | Method of Permeance of Coated Wallboard | 5.5.1.2.(3) 9.25.4.2.(5) |
| CGSB | CAN/CGSB-7.1-86 | Cold Formed Steel Framing Components | 9.24.1.2.(1) |
| CGSB | CAN/CGSB-7.2-94 | Adjustable Steel Columns | 9.17.3.4.(1) |
| CGSB | CAN/CGSB-10.3-92 | Air Setting Refractory Mortar | 9.21.3.4.(2) 9.21.3.9.(1) 9.22.2.2.(2) |
| CGSB | CAN/CGSB-11.3-M87 | Hardboard | 9.27.10.1.(2) 9.29.7.1.(1) 9.30.2.2.(1) |
| CGSB | CAN/CGSB-11.5-M87 | Hardboard, Precoated, Factory Finished, for Exterior Cladding | 9.27.10.1.(1) |
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| CGSB | CAN/CGSB-12.1-M90 | Tempered or Laminated Safety Glass | 3.3.1.18.(2) 3.4.6.14.(3) 9.6.6.2.(2) 9.7.3.1.(1) 9.8.8.7.(1) |
| CGSB | CAN/CGSB-12.2-M91 | Flat, Clear, Sheet Glass | 9.7.3.1.(1) |
| CGSB | CAN/CGSB-12.3-M91 | Flat, Clear, Float Glass | 9.7.3.1.(1) |
| CGSB | CAN/CGSB-12.4-M91 | Heat Absorbing Glass | 9.7.3.1.(1) |
| CGSB | CAN/CGSB-12.5-M86 | Mirrors, Silvered | 9.6.6.3.(2) |
| CGSB | CAN/CGSB-12.8-M90 | Insulating Glass Units | 9.7.3.1.(1) |
| CGSB | CAN/CGSB-12.10-M76 | Glass, Light and Heat Reflecting | 9.7.3.1.(1) |
| CGSB | CAN/CGSB-12.11-M90 | Wired Safety Glass | 3.4.6.14.(3) 9.6.6.2.(2) 9.7.3.1.(1) 9.8.8.7.(1) 4.3.6.1.(1) |
| CGSB | CAN/CGSB-12.20-M89 | Structural Design of Glass for Buildings | 3.3.1.18.(2) 9.7.3.2.(1) |
| CGSB | 19-GP-5M-1976 | Sealing Compound, One Component, Acrylic Base, Solvent Curing | 9.27.4.2.(2) |
| CGSB | CAN/CGSB-19.13-M87 | Sealing Compound, One Component, Elastomeric, Chemical Curing | 9.27.4.2.(2) |
| CGSB | 19-GP-14M-1976 | Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing | 9.27.4.2.(2) |
| CGSB | CAN/CGSB-19.22-M89 | Mildew Resistant Sealing Compound for Tubs and Tile | 9.29.10.5.(1) |
| CGSB | CAN/CGSB-19.24-M90 | Multi-Component, Chemical Curing Sealing Compound | 9.27.4.2.(2) |
| CGSB | CAN/CGSB-34.4-M89 | Siding, Asbestos-Cement, Shingles and Clapboards | 9.27.8.1.(1) |
| CGSB | CAN/CGSB-34.5-M89 | Sheets, Asbestos-Cement, Corrugated | 9.27.8.1.(1) |
| CGSB | CAN/CGSB-34.9-M87 | Pipe, Asbestos-Cement, Sewer | 7.2.5.1.(2) |
| CGSB | CAN/CGSB-34.14-M89 | Sheets, Asbestos-Cement, Decorative | 9.27.8.1.(1) |
| CGSB | CAN/CGSB-34.16-M89 | Sheets, Asbestos-Cement, Flat, Fully Compressed | 9.27.8.1.(1) |
| CGSB | CAN/CGSB-34.17-M89 | Sheets, Asbestos-Cement, Flat, Semicompressed | 9.27.8.1.(1) |
| CGSB | CAN/CGSB-34.21-M89 | Panels, Sandwich, Asbestos-Cement with Insulating Cores | 9.27.8.1.(1) |
| CGSB | CAN/CGSB-34.22-M87 | Pipe, Asbestos-Cement, Drain | 7.2.5.1.(1) 9.14.3.1.(1) |
| CGSB | CAN/CGSB-34.23-M87 | Pipe, Asbestos-Cement, Sewer, House Connection | 7.2.5.1.(2) |
| CGSB | CAN/CGSB-37.1-M89 | Chemical Emulsified Type, Emulsified Asphalts for Dampproofing | 9.13.2.1.(1) |
| CGSB | CAN/CGSB-37.2-M88 | Emulsified Asphalt, Mineral Colloid Type, Unfilled, for Dampproofing and Waterproofing and for Roof Coatings | 9.13.2.1.(1) |
| CGSB | CAN/CGSB-37.3-M89 | Application of Emulsified Asphalts for Dampproofing or Waterproofing | 9.13.1.4.(1) |
| CGSB | CAN/CGSB-37.4-M89 | Fibrated, Cutback Asphalt, Lap Cement for Asphalt Roofing | 9.26.2.1.(1) |
| CGSB | CAN/CGSB-37.5-M89 | Cutback Asphalt Plastic Cement | 9.26.2.1.(1) |
| CGSB | 37-GP-6Ma-1983 | Asphalt, Cutback, Unfilled, for Dampproofing | 9.13.2.1.(1) |
| CGSB | CAN/CGSB-37.8-M88 | Asphalt, Cutback, Filled, for Roof Coating | 9.26.2.1.(1) |
| CGSB | 37-GP-9Ma-1983 | Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing | 5.6.1.2.(1) 9.26.2.1.(1) |
| CGSB | 37-GP-12Ma-1984 | Application of Unfilled Cutback Asphalt for Dampproofing | 9.13.1.4.(1) |
| CGSB | CAN/CGSB-37.16-M89 | Filled Cutback Asphalt for Dampproofing and Waterproofing | 9.13.2.1.(1) |
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| CGSB | 37-GP-18Ma-1985 | Tar, Cutback, Unfilled, for Dampproofing | 9.13.2.1.(1) |
| CGSB | 37-GP-18Ma-1985 | Tar, Cutback, Fibrated, For Roof Coating | 9.26.2.1.(1) |
| CGSB | CAN/CGSB-37.22-M89 | Application of Unfilled Cutback Tar Foundation Coating for Dampproofing | 9.13.1.4.(1) |
| CGSB | 37-GP-36M-1976 | Application of Filled Cutback Asphalt for Dampproofing or Waterproofing | 5.8.2.3 (1) |
| CGSB | 37-GP-37M-1977 | Application of Hot Asphalt for Dampproofing or Waterproofing | 5.8.2.3 (1) |
| CGSB | CAN/CGSB-37.50-M89 | Hot Applied, Rubberized Asphalt for Roofing and Waterproofing | 9.26.2.1.(1) |
| CGSB | CAN/CGSB-37.51-M90 | Application for Hot Applied Rubberized Asphalt for Roofing and Waterproofing | 5.8.2.3.(1) 9.26.15.1. (1) |
| CGSB | 37-GP-52M-1984 | Roofing and Waterproofing Membrane, Sheet Applied, Elastomeric | 9.26.2.1.(1) |
| CGSB | 37-GP-54M-1979 | Roofing and Waterproofing Membrane, Sheet Applied, Flexible, Polyvinyl Chloride | 9.26.2.1.(1) |
| CGSB | 37-GP-55M-1979 | Application of Sheet Applied Flexible Polyvinyl Chloride Roofing Membrane | 9.26.16.1.(1) |
| CGSB | 37-GP-56M-1980 | Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing | 9.13.2.1.(1) 9.26.2.1.(1) |
| CGSB | 37-GP-64M-1977 | Mat Reinforcing, Fibrous Glass, for Membrane Waterproofing Systems and Built-up Roofing | 5.6.1.2.(1) |
| CGSB | 41-GP-6M-1983 | Sheets, Thermosetting Polyester Plastics, Glass Fiber Reinforced | 9.26.2.1.(1) |
| CGSB | 41-GP-24Ma-1983 | Siding, Soffits and Fascia, Rigid Vinyl | 9.27.13.1.(1) |
| CGSB | CAN/CGSB-51.20-M87 | Thermal Insulation, Polystyrene Boards and Pipe Covering | Table 9.23.16.2.A. 9.25.2.3.(1) |
| CGSB | 51-GP-21M-1978 | Thermal Insulation, Urethane and Isocyanurate, Unfaced | Table 9.23.16.2.A. 9.25.2.3.(1) |
| CGSB | CAN/CGSB-51.23-M92 | Spray Applied Rigid Polyurethane Cellular Plastic Thermal Insulation | 5.3.1.2.(2) 9.25.2.3.(1) |
| CGSB | CAN/CGSB-51.25-M87 | Thermal Insulation, Phenolic, Faced | 9.25.2.3.(1) |
| CGSB | CAN/CGSB-51.26-M87 | Thermal Insulation, Urethane and Isocyanurate, Boards, Faced | Table 9.23.16.2.A. 9.25.2.3.(1) |
| CGSB | 51-GP-27M-1979 | Thermal Insulation, Polystyrene, Loose Fill | 9.25.2.3.(1) |
| CGSB | CAN2-51.32-M77 | Sheathing, Membrane, Breather Type | 9.20.13.9.(1) 9.23.17.1.(1) 9.26.2.1.(1) |
| CGSB | CAN/CGSB-51.33-M89 | Vapour Barrier, Sheet, Excluding Polyethylene, for Use in Building Construction | 9.25.4.2.(4) |
| CGSB | CAN/CGSB-51.34-M86 | Vapour Barrier, Polyethylene Sheet for Use in Building Construction | 9.13.2.1.(1) 9.13.2.1.(2) 9.18.6.2.(1) 9.25.3.2.(2) 9.25.4.2.(3) |
| CGSB | CAN/CGSB-51.39-M92 | Spray Application of Rigid Polyurethane Cellular Plastic Insulation for Building Construction | 5.3.1.3.(3) 9.25.2.5.(1) |
| CGSB | CAN/CGSB-51.60-M90 | Cellulose Fibre Loose Fill Thermal Insulation | 9.25.2.3.(1) |
| CGSB | CAN/CGSB-63.14-M89 | Plastic Skylights | 9.7.7.1.(1) 9.7.7.2.(1) |
| CGSB | CAN/CGSB-82.1-M89 | Sliding Doors | 9.6.5.2.(1) |
| CGSB | CAN/CGSB-82.5-M88 | Insulated Steel Doors | 9.6.5.3.(1) |
| CGSB | CAN/CGSB-82.6-M86 | Doors, Mirrored Glass, Sliding or Folding, Wardrobe | 9.6.6.3.(1) |
| CGSB | CAN/CGSB-93.1-M85 | Sheet, Aluminum Alloy, Prefinished Residential | 9.27.12.1.(4) |
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| CGSB | CAN/CGSB-93.2-M91 | Prefinished, Aluminum, Siding, Soffits and Fascia for Residential Use | 9.27.12.1.(3) |
| CGSB | CAN/CGSB-93.3-M91 | Prefinished Galvanized and Aluminum-Zinc Alloy Steel Sheet for Residential Use | 5.6.1.2.(3) 9.27.12.1.(2) |
| CGSB | CAN/CGSB-93.4-M92 | Galvanized Steel and Aluminum-Zinc Alloy Coated Steel Siding and Fascia, Residential, Prefinished | 5.6.1.2.(3) 9.27.12.1.(1) |
| CSA | CAN/CSA-A5-M93 | Portland Cement | 9.3.1.2.(1) 9.20.3.1.(1) 9.28.2.1.(1) |
| CSA | CAN/CSA-A8-M93 | Masonry Cement | 9.20.3.1.(1) |
| CSA | CAN/CSA-A23.1-94 | Concrete Materials and Methods of Concrete Construction | 4.2.3.6.(1) 4.2.3.9.(1) 9.3.1.3.(1) 9.3.1.4.(1) |
| CSA | CAN/CSA-A23.3-94 | Design of Concrete Structures | Table 4.1.9.1.B. 4.3.3.1.(1) |
| CSA | A60.1-M1976 | Vitrified Clay Pipe | 7.2.5.4.(1) |
| CSA | A60.3-M1976 | Vitrified Clay Pipe Joints | 7.2.5.4.(2) |
| CSA | CAN/CSA-A82.1-M87 | Burned Clay Brick (Solid Masonry Units Made From Clay or Shale) | 9.20.2.1.(1) |
| CSA | A82.3-M1978 | Calcium Silicate (Sand-Lime) Building Brick | 9.20.2.1.(1) |
| CSA | A82.4-M1978 | Structural Clay Load-Bearing Wall Tile | 9.20.2.1.(1) |
| CSA | A82.5-M1978 | Structural Clay Non-Load-Bearing Tile | 9.20.2.1.(1) |
| CSA | A82.8-M78 | Hollow Clay Brick | 9.20.2.1.(1) |
| CSA | CAN/CSA-A82.27-M91 | Gypsum Board | 3.1.5.11.(4) Table 9.23.16.2.A. 9.29.5.2.(1) |
| CSA | A82.30-M1980 | Interior Furring, Lathing and Gypsum Plastering | 9.29.4.1.(1) |
| CSA | A82.31-M1980 | Gypsum Board Application | 9.10.12.5.(1) 9.29.5.1.(2) |
| CSA | A82.56-M1976 | Aggregate for Masonry Mortar | 9.20.3.1.(1) |
| CSA | CAN3-A93-M82 | Natural Airflow Ventilators for Buildings | 9.19.1.2.(4) |
| CSA | A101-M1983 | Thermal Insulation, Mineral Fibre, for Buildings | 9.25.2.3.(1) Table 9.23.16.2.A. |
| CSA | A123.1-M1979 | Asphalt Shingles Surfaced with Mineral Granules | 9.26.2.1.(1) |
| CSA | A123.2-M1979 | Asphalt Coated Roofing Sheets | 9.26.2.1.(1) |
| CSA | A123.3-M1979 | Asphalt or Tar Saturated Roofing Felt | 9.26.2.1.(1) |
| CSA | A123.4-M1979 | Bitumen for Use in Construction of Built-Up Roof Coverings and Dampproofing and Waterproofing Systems | 9.13.2.1.(1) 9.26.2.1.(1) |
| CSA | CAN/CSA-A123.5-M90 | Asphalt Shingle Made from Glass Felt and Surfaced with Mineral Granules | 5.6.1.2.(1) 9.26.2.1.(1) |
| CSA | A123.17-M1963 | Asphalt-Saturated Felted Glass-Fibre Mat for Use in Construction of Built-Up Roofs | 9.26.2.1.(1) |
| CSA | CAN3-A123.51-M85 | Asphalt Shingle Application on Roof Slopes 1:3 and Steeper | 9.26.1.2.(1) |
| CSA | CAN3-A123.52-M85 | Asphalt Shingle Application on Roof Slopes 1:6 to Less than 1:3 | 9.26.1.2.(1) |
| CSA | A165.1-94 | Concrete Masonry Units | 9.15.2.2.(1) 9.17.5.1.(1) 9.20.2.1.(1) 9.20.2.6.(1) |
| CSA | A165.2-94 | Concrete Brick Masonry Units | 9.20.2.1.(1) |
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| CSA | A165.3-94 | Prefaced Concrete Masonry Units | 9.20.2.1.(1) |
| CSA | A165.4-94 | Autoclaved Cellular Units | 9.20.2.1.(1) |
| CSA | CAN/CSA-A220.0-M91 | Performance of Concrete Roof Tiles | 5.6.1.2.(1) 9.26.2.1.(1) |
| CSA | CAN/CSA-A220.1-M91 | Installation of Concrete Roof Tiles | 9.26.17.1.(1) |
| CSA | CAN/CSA-A247-M86 | Insulating Fibreboard | 9.23.15.6.(3) Table 9.23.16.2.A. 9.25.2.3.(1) 9.25.3.1.(1) 9.29.8.1.(1) |
| CSA | A257 Series-M92 | Standards for Circular Concrete Pipe and Manholes | 7.2.5.3.(1) |
| CSA | CAN/CSA-A257.4-M92 | Precast Reinforced Circular Concrete Manhole Sections, Catch Basins, and Fittings | 7.2.5.3.(6) |
| CSA | CAN3-A266.1-M78 | Air-Entraining Admixtures for Concrete | 9.3.1.8.(1) |
| CSA | CAN3-A266.2-M78 | Chemical Admixtures for Concrete | 9.3.1.8.(1) |
| CSA | CAN/CSA-A277-M90 | Procedures for Certification of Factory-Built Houses | 2.1.1.4.(2) |
| CSA | CAN/CSA-A324-M88 | Clay Flue Liners | 9.21.3.3.(1) |
| CSA | A371-94 | Masonry Construction for Buildings | 5.6.1.2.(3) 5.6.1.3.(3) 9.20.15.2.(1) |
| CSA | CAN/CSA-A405-M87 | Design and Construction of Masonry Chimneys and Fireplaces | 9.21.3.5.(1) 9.22.1.4.(1) 9.22.5.2.(2) |
| CSA | CAN3-A438-M84 | Concrete Construction for Housing and Small Buildings | 9.3.1.1.(1) 9.3.1.7.(1) |
| CSA | CAN/CSA-A440-M90 | Windows | 3.7.2.2.(3) 9.7.2.1.(1) 9.7.6.1.(1) |
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| CSA | CAN/CSA-B44-M94 | Safety Code for Elevators, Escalators, Dumbwaiters, Moving Walks and Freight Platform Lifts | 3.3.3.9.(1) 3.8.3.5.(1) Table 4.1.10.5. |
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| CSA | CAN/CSA-B64.7-M94 | Vacuum Breakers, Laboratory Faucet Type (LFVP) | 7.2.10.10.(1) |
| CSA | CAN/CSA-B64.8-M94 | Backflow Preventers, Dual Check Valve Type with Intermediate Vent (DuCV) | 7.2.10.10.(1) |
| CSA | CAN/CSA-B64.10-M94 | Backflow Prevention Devices - Selection, Installation, Maintenance and Field Testing | 7.2.10.10.(1) |
| CSA | B67-1972 | Lead Service Pipe, Waste Pipe, Traps, Bends and Accessories | 7.2.7.8.(1) 7.2.9.2.(1) |
| CSA | CAN/CSA-B70-M91 | Cast Iron Soil Pipe, Fittings and Means of Joining | 7.2.6.1.(1) |
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| CSA | CAN/CSA-B182.1-M92 | Plastic Drain and Sewer Pipe and Pipe Fittings | 7.2.5.9.(1) 7.2.5.10.(2) 9.14.3.1.(1) |
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| CSA | B242-M1980 | Groove and Shoulder Type Mechanical Pipe Couplings | 7.2.10.4.(1) |
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| CSA | CAN/CSA-B602-M90 | Mechanical Couplings for Drain, Waste, and Vent Pipe and Sewer Pipe | 7.2.5.3.(3) 7.2.10.4.(2) |
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| CSA | CAN/CSA-C260-M90 | Rating for the Performance of Residential Mechanical Ventilating Equipment | 9.32.3.9.(1) |
| CSA | CAN/CSA-C282-M89 | Emergency Electrical Power Supply for Buildings | 3.2.7.5.(1) |
| CSA | CAN/CSA-C439-M88 | Standard Methods of Test for Rating the Performance of Heat Recovery Ventilators | 6.2.1.7.(2) 9.32.3.11.(2) |
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| CSA | C447-94 | Design and Installation of Earth Energy Heat Pump Systems for Commercial and Institutional Buildings | 6.2.1.5.(4) |
| CSA | CAN/CSA-F280-M90 | Determining the Required Capacity of Residential Space Heating and Cooling Appliances | 6.2.1.1.(1) |
| CSA | CAN/CSA-F379.1-88 | Solar Domestic Hot Water Systems (Liquid to Liquid Heat Transfer) | 7.2.10.13.(1) |
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| CSA | G164-M81 | Hot Dip Galvanising of Irregularly Shaped Articles | 4.1.10.8.(4) |
| CSA | G401-93 | Corrugated Steel Pipe Products | 7.2.6.8.(1) 9.14.3.1.(1) |
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| CSA | CAN/CSA-O80.1-M89 | Preservative Treatment of All Timber Products by Pressure Processes | 9.3.2.9.(1) |
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| CSA | CAN/CSA-O80.3-M89 | Preservative Treatment of Piles by Pressure Processes | 4.2.3.2.(1) |
| CSA | CAN/CSA-O80.9-M89 | Preservative Treatment of Plywood by Pressure Processes | 9.3.2.9.(1) |
| CSA | CAN/CSA-O80.15-M89 | Preservative Treatment of Wood for Building Foundation Systems, Basements and Crawl Spaces by Pressure Processes | 4.2.3.2.(1) 9.3.2.9.(1) |
| CSA | O86.1-94 | Engineering Design in Wood (Limit States Design) | 4.3.1.1.(1) Table 4.1.9.1.B. |
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| CSA | O118.1-M88 | Western Red Cedar Shingles and Shakes | 9.26.2.1.(1) 9.27.7.1.(1) |
| CSA | O118.2-M88 | Eastern White Cedar Shingles | 5.6.1.2.(1) 5.6.1.2.(3) 9.26.2.1.(1) 9.27.7.1.(1) |
| CSA | O121-M1978 | Douglas Fir Plywood | 9.23.14.2.(1) 9.23.15.1.(1) Table 9.23.16.2.A. 9.27.9.1. 9.30.2.2.(1) |
| CSA | O132.2-M1977 | Wood Doors | 9.6.5.1.(1) |
| CSA | CAN/CSA-O132.2 Series-M90 | Wood Flush Doors | 9.6.5.1.(1) |
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| CSA | O151-M1978 | Canadian Softwood Plywood | 9.23.14.2.(1) 9.23.15.1.(1) Table 9.23.16.2.A. 9.27.9.1.(1) 9.30.2.2.(1) |
| CSA | O153-M1980 | Poplar Plywood | 9.23.14.2.(1) 9.23.15.1.(1) Table 9.23.16.2.A. 9.27.9.1.(1) 9.30.2.2.(1) |
| CSA | CAN/CSA-O177-M89 | Qualification Code for Manufacturers of Structural Glued-Laminated Timber | 4.3.1.2.(1) |
| CSA | CAN3-O188.1-M78 | Interior Mat-Formed Wood Particleboard | 9.23.14.2.(3) 9.29.9.1.(1) 9.30.2.2.(1) |
| CSA | CAN/CSA-O325.0-92 | Construction Sheathing | 5.6.1.2.(3) 9.23.14.2.(1) 9.23.15.1.(1) |
| CSA | O437.0-93 | OSB and Waferboard | 5.6.1.2.(3) 9.23.14.2.(1) 9.23.14.4.(2) 9.23.15.1.(1)9.23.15.2.(2) Table 9.23.16.2.A. 9.27.11.1.(1) 9.29.9.1.(2) 9.30.2.2.(1) |
| CSA | CAN/CSA-S16.1-94 | Limit States Design of Steel Structures | Table 4.1.9.1.B. 4.3.4.1.(1) |
| CSA | CAN/CSA-S37-M86 | Antennas, Towers and Antenna Supporting Structures | 4.1.1.4.(2) |
| CSA | S136-94 | Cold Formed Steel Structural Members | 4.3.4.2.(1) |
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| CSA | CAN3-S304-M84 | Masonry Design for Buildings | Table 4.1.9.1.B. 4.3.2.1.(1) 9.21.4.5.(1) |
| CSA | S304.1-94 | Masonry Design for Buildings (Limit States Design) | Table 4.1.9.1.B. 4.1.9.3.(5) 4.3.2.1.(1) |
| CSA | S307-M1980 | Load Test Procedure for Wood Roof Trusses for Houses and Small Buildings | 9.23.13.11.(5) |
| CSA | CAN3-S367-M81 | Air Supported Structures | 4.4.1.1.(1) |
| CSA | CAN/CSA-S406-M92 | Construction of Preserved Wood Foundations | 9.13.3.4.(1) 9.15.1.3.(3) |
| CSA | S413-94 | Parking Structures | 2.1.1.9.(1) 4.4.2.1.(1) |
| CSA | CAN/CSA-Z32.4-M86 | Essential Electrical Systems for Hospitals | 3.2.7.6.(1) |
| CSA | CAN/CSA-Z91-M90 | Safety Code for Window Cleaning Operations | 4.1.10.8.(2) |
| CSA | CAN/CSA-Z240.2.1-92 | Structural Requirements for Mobile Homes | 2.1.1.4.(2) 9.12.2.2.(6) 9.15.1.4.(1) |
| CSA | CAN/CSA-Z240.3.1-M92 | Plumbing Requirements for Mobile Homes | 2.1.1.4.(2) |
| CSA | CAN/CSA-Z240.8.1-M92 | Light Duty Windows | 2.1.1.4.(2) 9.7.2.1.(2) |
| CSA | CAN/CSA-Z240.10.1-M94 | Site Preparation, Foundation and Anchorage of Mobile Homes | 9.15.1.4.(1) 9.23.6.3.(1) |
| CSA | CAN/CSA-Z241-M92 | Park Model Trailers | 9.39.1.1.(1) 9.39.2.1.(1) |
| CSA | CAN/CSA-Z305.1-92 | No-Flammable Medical Gas Piping Systems | 3.7.5.2.(1) |
| CSA | CAN/CSA-Z317.2-M91 | Special Requirements for Heating, Ventilation and Air Conditioning (HVAC) Systems in Health Care Facilities | 6.2.1.1.(1) |
| DBR | Technical Paper No. 194 | Fire Endurance of Protected Steel Columns and Beams | 11.5.1.1. |
| DBR | Technical Paper No. 207 | Fire Endurance of Unit Masonry Miscellaneous Assemblies | 11.5.1.1. |
| DBR | Technical Paper No. 222 | Fire Endurance of Light Framed and Miscellaneous Assemblies | 11.5.1.1. |
| HUD | Rehabilitation Guidelines No. 8 - 1980 | Guideline on Fire Ratings of Archaic Materials and Assemblies | 11.5.1.1. |
| ISO | ISO 8201; 1987(E) | Acoustics - Audible Emergency Evacuation Signal | 3.2.4.19.(2) |
| TPIC | 1988 | Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses | 9.23.13.11.(6) |
| MMAH | Supplementary Guidelines, 1997 | Supplementary Guidelines to the 1997 OBC | 2.1.1.11., 3.1.5.22.(2), 3.1.7.1.(2), 3.1.8.14.(2), 3.1.9.5.(1), 3.1.12.1.(3), 3.2.3.11.(1) 3.2.3.12.(4), 3.2.4.19.(7), 3.2.6.9.(3), 3.2.6.10.(2), 3.2.6.15.(1), 3.6.1.5.(1), 3.12.2.1.(8), 3.12.3.5.(1), 3.12.3.6.(2), 3.12.4.2.(7), 9.8.8.8.(2), 9.10.3.1.(1), 9.10.3.2.(1), 9.10.5.1.(4), 9.11.2.1., 9.13.7.1.(1), 9.15.3.3.(4), 9.1 0.13.14.(1) |
| MOEE | Guidelines 1985, with Subsequent Revision | Guidelines for the Design of Sanitary Sewage Works, Storm Sewers, Water Storage Facilities, Water Distribution Systems, Servicing in areas subject to adverse conditions, Water supply for small residential development and seasonally operated water supply | 7.1.6.5.(1) |
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| NFPA | 13-1994 | Installation of Sprinkler Systems | 3.2.4.16.(1) 3.2.5.13.(1) 3.2.8.4.(7) 3.3.2.12.(3) 7.6.2.3.(4) |
| NFPA | 13D-1994 | Installation of Sprinkler Systems in One- and Two-Family Dwellings and Mobile Homes | 3.2.5.13.(3) |
| NFPA | 13R-1991 | Installation of Sprinkler Systems in Residential Occupancies up to and including Four Stories in Height | 3.2.5.13.(2) |
| NFPA | 14-1993 | Installation of Standpipe and Hose Systems | 3.2.9.2.(1) |
| NFPA | 24-92 | Standard for the Installation of Fire Service Mains and Their Appurtenances | 7.2.11.1.(1) |
| NFPA | 71-1989 | Installation, Maintenance and Use of Central Station Signalling Systems | 3.2.4.7.(4) |
| NFPA | 72-1990 | Installation, Maintenance and Use of Proprietary Protective Signalling Systems | 3.2.4.7.(4) 3.12.5.4.(1) |
| NFPA | 80-1992 | Fire Doors and Windows | 3.1.8.5.(2) 3.1.8.10.(2) 3.1.8.12.(2) 3.1.8.14.(1) 3.12.3.1.(2) 9.10.13.1.(1) 9.10.13.2.(3) |
| NFPA | 82-1994 | Incinerators, Waste and Linen Handling Systems and Equipment | 6.2.6.1.(1) 9.10.10.5.(2) |
| NFPA | 96-1994 | Ventilation Control and Fire Protection of Commercial Cooking Operations | 6.2.2.6. (1) |
| NFPA | 130-1990 | Fixed Guideway Transit Systems | 3.12.7.1. |
| NFPA | 211-1992 | Standard for Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances | 6.3.1.2.(2) 6.3.1.3.(1) |
| NFPA | 214-1992 | Water-Cooling Towers | 6.2.3.15.(4) |
| NFPA | 701-1992 | Standard Method of Fire Tests for Flame-Resistant Textiles and Films | 3.13.1.6.(1) 3.13.2.5.(1) |
| NLGA | 1994 | Standard Grading Rules for Canadian Lumber | 9.3.2.1.(1) Table 9.3.2.1. |
| UL | UL 2034-1992 | Single and Multiple Station Carbon Monoxide Detectors | 9.32.3.8.(3) |
| ULC | CAN/ULC-S101-M89 | Standard Methods of Fire Endurance Tests of Building Construction and Materials | 3.1.5.11.(3) 3.1.5.11.(4) 3.1.5.11.(6) 3.1.7.1.(1) 3.1.11.7.(1) 3.2.3.7.(7) 3.2.6.9.(6) 3.2.6.14.(4) |
| ULC | CAN/ULC-S102-M88 | Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies | 3.1.12.1.(1) |
| ULC | CAN/ULC-S102.2-M88 | Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials and Assemblies | 3.1.12.1.(2) 3.1.13.4.(1) |
| ULC | S102.3-M1982 | Standard Method of FireTest of Light Diffusers and Lenses | 3.1.13.4.(1) |
| ULC | CAN4-S104-M80 | Standard Method of FireTest of Door Assemblies | 3.1.8.4.(1) 3.2.6.9.(3) 9.10.13.2.(1) |
| ULC | CAN4-S105-M85 | Standard Specification for Fire Door Frames Meeting the Performance Required by CAN4-S104 | 9.10.13.6.(1) |
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| ULC | CAN4-S106-M80 | Standard Method for Fire Tests of Window and Glass Block Assemblies | 3.1.8.4.(1) 3.13.2.5.(1) |
| ULC | CAN/ULC-S107-M87 | Standard Method for Fire Tests of Roof Coverings | 3.1.15.1.(1) |
| ULC | CAN/ULC-S109-M87 | Standard for Flame Tests of Flame-Resistant Fabrics and Films | 3.1.4.7.(1) 3.1.5.22.(1) 3.13.1.6.(1) 6.2.3.18.(1) 6.2.4.9.(1) |
| ULC | CAN/ULC-S110-M1986 | Standard Methods of Fire Test for Air Ducts | 6.2.3.2.(2) 6.2.3.2.(4) |
| ULC | CAN4-S111-M80 | Standard Method of Fire Tests for Air Filter Units | 6.2.3.14.(1) 6.2.4.14.(1) |
| ULC | CAN/ULC-S112-M90 | Standard Method of Fire Test of Fire-Damper Assemblies | 3.1.8.4.(1) |
| ULC | CAN4-S112.2-M84 | Standard Method of Fire Test of Ceiling Firestop Flap Assemblies | 3.1.9.5.(2) 3.6.4.3.(2) |
| ULC | CAN4-S113-M79 | Standard Specification for Wood Core Doors Meeting the Performance Required by CAN4-S104-77 for Twenty Minute Fire Rated Closure Assemblies | 9.10.13.2.(1) |
| ULC | CAN4-S114-M80 | Standard Method of Fire Test for Determination of Non-Combustibility in Building Materials | 1.1.3.2. |
| ULC | CAN4-S115-M85 | Standard Method of Fire Tests for Firestop Systems | 3.1.9.1.(1) 3.1.9.1.(2) 3.1.9.4.(4) 9.10.9.7.(3) |
| ULC | CAN4-S124-M85 | Standard Method of Test for the Evaluation of Protective Coverings for Foamed Plastic | 3.1.5.11.(2) |
| ULC | CAN/ULC-S126-M86 | Standard Method of Test for Fire Spread Under Roof-Deck Assemblies | 3.1.14.1.(1) 3.1.14.2.(1) |
| ULC | CAN/ULC-S134-92 | Fire Test of Exterior Wall Assemblies | 3.1.5.5.(1) |
| ULC | S505-1974 | Standard for Fusible Links for Fire Protection Service | 3.1.8.9.(1) |
| ULC | S513-78 | Standard for Threaded Couplings for 38 mm and 65 mm Fire Hose | 3.2.9.2.(7) |
| ULC | CAN/ULC-S524-M91 | Standard for the Installation of Fire Alarm Systems | 3.2.4.5.(1) |
| ULC | CAN/ULC-S531-M87 | Standard for Smoke Alarms | 3.2.4.21.(1) 9.10.18.1.(1) |
| ULC | CAN/ULC-S537-M87 | Standard for the Verification of Fire Alarm Systems | 3.2.4.5.(2) |
| ULC | S543-M1983 | Standard for Internal Lug Quick Connect Couplings for Fire Hoses | 3.2.9.2.(7) |
| ULC | CAN/ULC-S553-M86 | Installation of Smoke Alarms | 3.2.4.21.(7) |
| ULC | CAN/ULC-S610-M87 | Standard for Factory-Built Fireplaces | 9.22.8.1. |
| ULC | CAN/ULC-S628-93 | Fireplace Inserts | 9.22.10.1.(1) |
| ULC | CAN/ULC-S629-M87 | Standard for 650°C Factory-Built Chimneys | 9.21.1.2. |
| ULC | CAN/ULC-S639-M87 | Standard for Steel Liner Assemblies for Solid Fuel-Burning Masonry Fireplaces | 9.22.2.3. |
| ULC | CAN/ULC-S701-M97 | Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering | Table 9.23.16.2.A. 9.25.2.3.(1) 9.25.2.3.(4) |
| ULC | ULC/ORD-C199P-M1988 | Guide for the Investigation of Combustible Piping for Sprinkler Systems | 3.2.5.14.(2) |
| ULC | ULC/ORD-C376-1995 | Fire Growth of Foamed Plastic Insulated Building Panels in a Full-Scale Room Configuration | 3.1.5.11.(7) |
| ULC | ULC/ORD-C693-1994 | Central Station Fire Protective Signalling Systems and Services | 3.2.4.7.(4) |
| Column 1 | 2 | 3 | 4 |

2.6.4. Alternate Test Standards**2.6.4.1. Comparable Test Results**

(1) The results of tests based on test standards other than as described in this Code may be used if the alternate test standards provide comparable results.

Section 2.7. Equivalents**2.7.1. Application****2.7.1.1. General**

(1) A *chief building official* may allow under Section 9 of the Act the use of materials, systems or *building* designs not authorized by the *building code* where the use of the proposed materials, systems or *building* designs

(a) is permitted under this Section, and

(b) will, in the opinion of the *chief building official*, provide the level of performance that would be achieved by conformance with the requirements of the *building code*.

2.7.2. Acceptance of Equivalents**2.7.2.1. Materials**

(1) Materials not specifically described in Parts 3, 5, 6, 7 and 9, or which vary from the specific requirements in those Parts or for which no recognized test procedure has been established, may be used if the person requesting the use of such material can establish on the basis of past performance, tests described in Article 2.7.2.4. or other evaluation that the use of the proposed material will provide the level of performance that would be achieved by conformance with the requirements of the *building code*.

2.7.2.2. Systems

(1) Systems not specifically described in Parts 3, 5, 6, 7 and 9, or for which no recognized test procedure has been established, may be used if the person requesting the use of such system can establish on the basis of past performance, tests described in Article 2.7.2.4. or other evaluation that the use of the proposed system will provide the level of performance that would be achieved by conformance with the requirements of the *building code*.

2.7.2.3. Building Designs

(1) *Building* designs not specifically described in Part 4 may be used if the person requesting the use of such *building* design can establish

that the use of the proposed *building* design will provide the level of performance that would be achieved by conformance with the requirements of the *building code*.

2.7.2.4. Tests

(1) Where no published test method to establish the suitability of a material or system proposed under Articles 2.7.2.1. or 2.7.2.2. exists, then the tests used for the purposes of those Articles shall be designed to simulate or exceed anticipated service conditions or shall be designed to compare the performance of the material or system with a similar material or system that is known to be acceptable.

(2) The results of tests or evaluations based on test standards other than as described in the *building code* may, in accordance with Article 2.6.4.1., be used for the purposes of Sentence (1) if the alternate test standards provide comparable results.

Section 2.8. Materials, Systems and Building Designs**2.8.1. Designated Materials Evaluation Bodies****2.8.1.1. Designated Bodies**

(1) The following body is designated as a materials evaluation body for the purposes of Subsection 29(1) of the Act:

Canadian Construction Materials Centre
Institute for Research in Construction
National Research Council of Canada
Montreal Road
Ottawa, Ontario
K1A 0R6

2.8.2. Minister's Rulings**2.8.2.1. Minister's Rulings**

(1) The Minister may impose terms and conditions, including conditions of termination, when making rulings under Subsection 29(1) of the Act adopting the evaluation report of a materials evaluation body designated in the *building code*.

Section 2.9. Search Warrant**2.9.1. Forms****2.9.1.1. Information & Warrant Forms**

(1) An information to obtain a warrant to enter and search lands and *buildings* under Subsection 21(1) of the Act shall be in Form 2.9.1.A.

(2) A warrant to enter and search lands and *buildings* under Subsection 21(1) of the Act shall be in Form 2.9.1.B.

Form 2.9.1.A.

Building Code Act, 1992

INFORMATION TO OBTAIN SEARCH WARRANT UNDER
SECTION 21 OF THE BUILDING CODE ACT, 1992ONTARIO COURT (PROVINCIAL DIVISION)
PROVINCE OF ONTARIOThis is the information of
(name)of
(address) (occupation)I have reasonable ground to believe and do believe that the offence
of

contrary to Building Code Act, 1992 Section has been committed and that the entry into and search of a certain building, receptacle or

place, namely,
(building, receptacle or place)of at
(owner) (address)will afford the following evidence:
.....
(describe evidence to be searched for, including things to be seized, if any)

relevant to the commission of the offence.

And I further say that my grounds for so believing are:

Therefore, I request that a search warrant be issued to

check ☐ enter into and search the said
appropriate (building, receptacle or place)
box for the said evidence.☐ enter into and search the said
(building, receptacle or place)
..... for the said evidence and to seize the following things :
.....
(describe things to be seized)

Informant

Sworn before me at

this day of
Provincial Judge or Justice of the Peace

Form 2.9.1.B.

Building Code Act, 1992

SEARCH WARRANT UNDER SECTION 21 OF THE BUILDING CODE ACT, 1992

ONTARIO COURT (PROVINCIAL DIVISION)
PROVINCE OF ONTARIO

To:

Whereas, on the information on oath of I am satisfied that there is reasonable ground to believe that the
offence of contrary to Building Code Act, 1992 Section
has been committed and that

(describe evidence to be searched for, including things to be seized, if any)

that there is reasonable ground to believe will afford evidence of the said offence may be found at

(building, receptacle or place)

of , at

(owner)

(address)

hereinafter called the premises.

This is therefore to authorise you to enter such

(name or location of building, receptacle or place)

between the hours of 6:00 a.m. and 9:00 p.m., or

(time warrant to be executed)

check ☐ and to search for the said evidence.
appropriate
box

☐ and to search the said evidence and to seize the following things

(describe things to be seized)

and carry them before me or another Provincial Judge or Justice of the Peace so that they may be dealt with according to the law.

This warrant expires on the day of , a day not later than the fifteenth day after its issue.

Issue at

this day of

Provincial Judge or Justice of the Peace

Part 3 **Fire Protection, Occupant Safety** **and Accessibility**

| | | | |
|--------------|--|---------------|---|
| Section 3.1. | General | 3.6.4. | Horizontal Service Spaces and Service Facilities |
| 3.1.1. | Scope | Section 3.7. | Health Requirements |
| 3.1.2. | Classification of Buildings or Parts of Buildings by Major Occupancy | 3.7.1. | Height and Area of Rooms |
| 3.1.3. | Multiple Occupancy Requirements | 3.7.2. | Windows |
| 3.1.4. | Combustible Construction | 3.7.3. | Ventilation |
| 3.1.5. | Noncombustible Construction | 3.7.4. | Plumbing Facilities |
| 3.1.6. | Reserved | 3.7.5. | Health Care Facility Systems |
| 3.1.7. | Fire-Resistance Ratings | Section 3.8. | Barrier-Free Design |
| 3.1.8. | Fire Separations and Closures | 3.8.1. | General |
| 3.1.9. | Building Services in Fire Separations and Fire Rated Assemblies | 3.8.2. | Occupancy Requirements |
| 3.1.10. | Firewalls | 3.8.3. | Design Standards |
| 3.1.11. | Fire Stops in Concealed Spaces | Section 3.9. | Portable Classrooms |
| 3.1.12. | Flame-Spread Rating and Smoke Developed Classification | 3.9.1. | Scope |
| 3.1.13. | Interior Finish | 3.9.2. | Interior Finish |
| 3.1.14. | Roof Assemblies | 3.9.3. | Application |
| 3.1.15. | Roof Covering | Section 3.10. | Self-Service Storage Buildings |
| 3.1.16. | Occupant Load | 3.10.1. | Scope |
| 3.1.17. | Drainage and Grades | 3.10.2. | Requirements for All Buildings |
| 3.1.18. | Above Ground Electrical Conductors | 3.10.3. | Additional Requirements for Buildings Containing More Than 1 Storey |
| Section 3.2. | Building Fire Safety | 3.10.4. | Additional Requirements for 1 Storey Buildings |
| 3.2.1. | General | Section 3.11. | Public Pools |
| 3.2.2. | Building Size and Construction Relative to Occupancy | 3.11.1. | General |
| 3.2.3. | Spatial Separation and Exposure Protection | 3.11.2. | Designations of Public Pools |
| 3.2.4. | Fire Alarm and Detection Systems | 3.11.3. | Pool and Pool Deck Construction Requirements for All Class A and Class B Pools |
| 3.2.5. | Provisions for Fire-fighting | 3.11.4. | Public Pools Equipped with Diving Boards or Diving Platforms |
| 3.2.6. | Additional Requirements for High Buildings | 3.11.5. | Ramps into Public Pools in Group B, Division 2 or 3, Major Occupancies |
| 3.2.7. | Lighting and Emergency Power Systems | 3.11.6. | Modified Pools |
| 3.2.8. | Mezzanines and Openings Through Floor Assemblies | 3.11.7. | Wave Action Pools |
| 3.2.9. | Standpipe Systems | 3.11.8. | Recirculation and Vacuum Systems for Public Pools |
| Section 3.3. | Safety Within Floor Areas | 3.11.9. | Dressing Rooms, Locker Facilities, and Plumbing Facilities for All Public Pools |
| 3.3.1. | All Floor Areas | 3.11.10. | Emergency Provisions for All Public Pools |
| 3.3.2. | Assembly Occupancy | 3.11.11. | Service Rooms and Storage for All Public Pools |
| 3.3.3. | Care or Detention Occupancy | Section 3.12. | Rapid Transit Stations |
| 3.3.4. | Residential Occupancy | 3.12.1. | Scope and Definitions |
| 3.3.5. | Industrial Occupancy | 3.12.2. | Construction Requirements |
| Section 3.4. | Exits | 3.12.3. | Safety Requirements Within Stations |
| 3.4.1. | General | 3.12.4. | Means of Egress |
| 3.4.2. | Number and Location of Exits from Floor Areas | 3.12.5. | Fire Safety Provisions |
| 3.4.3. | Width and Height of Exits | 3.12.6. | Required Sanitary Facilities |
| 3.4.4. | Fire Separation of Exits | 3.12.7. | Emergency Ventilation |
| 3.4.5. | Exit Signs | 3.12.8. | Barrier-Free Design |
| 3.4.6. | Types of Exit Facilities | Section 3.13. | Tents and Air-Supported Structures |
| 3.4.7. | Fire Escapes | 3.13.1. | Tents |
| Section 3.5. | Vertical Transportation | 3.13.2. | Air-Supported Structures |
| 3.5.1. | General | Section 3.14. | Signs |
| 3.5.2. | Elevator Required | 3.14.1. | Scope |
| 3.5.3. | Fire Separations | 3.14.2. | Alterations |
| 3.5.4. | Dimensions and Signs | 3.14.3. | Structural Requirements |
| Section 3.6. | Service Facilities | | |
| 3.6.1. | General | | |
| 3.6.2. | Service Rooms | | |
| 3.6.3. | Vertical Service Spaces and Service Facilities | | |

- 3.14.4. Plastic Sign Facing Materials
3.14.5. Location Restrictions

- Section 3.15. Additional Requirements For Change of Use
3.15.1. Scope
3.15.2. Additional Construction

Part 3 Fire Protection, Occupant Safety and Accessibility

Section 3.1. General

3.1.1. Scope

3.1.1.1. Scope

- (1) The scope of this Part shall be as described in Section 2.1.

3.1.1.2. Reserved

3.1.2. Classification of Buildings or Parts of Buildings by Major Occupancy

3.1.2.1. Classification of Buildings

- (1) Except as permitted by Articles 3.1.2.3. to 3.1.2.6., every *building* or part thereof shall be classified according to its *major occupancy* as belonging to one of the Groups or Divisions described in Table 3.1.2.1.

Table 3.1.2.1.

Major Occupancy Classification

Forming Part of Sentence 3.1.2.1.(1)

| Group | Division | Description of Major Occupancies |
|----------|----------|---|
| A | 1 | Assembly occupancies intended for the production and viewing of the performing arts |
| A | 2 | Assembly occupancies not elsewhere classified in Group A |
| A | 3 | Assembly occupancies of the arena type |
| A | 4 | Assembly occupancies in which occupants are gathered in the open air |
| B | 1 | Detention occupancies |
| B | 2 | Care and treatment occupancies |
| B | 3 | Care occupancies |
| C | --- | Residential occupancies |
| D | --- | Business and personal services occupancies |
| E | --- | Mercantile occupancies |
| F | 1 | High hazard industrial occupancies |
| F | 2 | Medium hazard industrial occupancies |
| F | 3 | Low hazard industrial occupancies |
| Column 1 | 2 | 3 |

- (2) A *building* intended for use by more than one *major occupancy* shall be classified according to all *major occupancies* for which it is used or intended to be used.

3.1.2.2. Occupancies of the Same Classification

- (1) Any *building* is deemed to be occupied by a single *major occupancy*, notwithstanding its use for more than one *major occupancy*, provided that all *occupancies* are classified as belonging to the same Group classification or, where the Group is divided into Divisions, as belonging to the same Division classification described in Table 3.1.2.1.

3.1.2.3. Arena Type Buildings

- (1) An arena type *building* intended for occasional use for trade shows and similar exhibition purposes shall be classified as Group A, Division 3 *occupancy*.

- (2) If the *building area* of an arena type *building* referred to in Sentence (1) is more than 1 500 m², the *building* shall be sprinklered.

3.1.2.4. Police Stations

- (1) A police station with detention quarters is permitted to be classified as a Group B, Division 2 *major occupancy* provided the station is not more than 1 storey in *building height* and 600 m² in *building area*.

3.1.2.5. Group B, Division 3 Occupancies

- (1) Group B, Division 3 *occupancies* are permitted to be classified as Group C *major occupancies* provided

- (a) the occupants live as a single housekeeping unit in a *dwelling unit* with sleeping accommodation for not more than 10 persons, and
(b) not more than 2 occupants require assistance in evacuation in case of an emergency.

3.1.2.6. Restaurants

- (1) A restaurant is permitted to be classified as a Group E *major occupancy* provided the restaurant is designed to accommodate not more than 30 persons consuming food or drink.

3.1.3. Multiple Occupancy Requirements

3.1.3.1. Separation of Major Occupancies

- (1) Except as permitted by Sentences (2) and (3), *major occupancies* shall be separated from adjoining *major occupancies* by *fire separations* having *fire-resistance ratings* conforming to Table 3.1.3.1.

Table 3.1.3.1.

Major Occupancy Fire Separations⁽¹⁾

Forming Part of Sentence 3.1.3.1.(1)

| Major Occupancy | Minimum Fire-Resistance Rating of Fire Separation, h ⁽¹⁾ | | | | | | | | | | | | |
|-----------------|---|-----|-----|-----|-----|-----|-----|------------------|-----|------------------|-----|------------------|-----|
| | Adjoining Major Occupancy | | | | | | | | | | | | |
| | A-1 | A-2 | A-3 | A-4 | B-1 | B-2 | B-3 | C | D | E | F-1 | F-2 | F-3 |
| A-1 | --- | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | (2) | 2 | 1 |
| A-2 | 1 | --- | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | (2) | 2 | 1 |
| A-3 | 1 | 1 | --- | 1 | 2 | 2 | 2 | 1 | 1 | 2 | (2) | 2 | 1 |
| A-4 | 1 | 1 | 1 | --- | 2 | 2 | 2 | 1 | 1 | 2 | (2) | 2 | 1 |
| B-1 | 2 | 2 | 2 | 2 | --- | 2 | 2 | 2 | 2 | 2 | (2) | 2 | 2 |
| B-2 | 2 | 2 | 2 | 2 | 2 | --- | 1 | 2 | 2 | 2 | (2) | 2 | 2 |
| B-3 | 2 | 2 | 2 | 2 | 2 | 1 | --- | 2 | 2 | 2 | (2) | 2 | 2 |
| C | 1 | 1 | 1 | 1 | 2 | 2 | 2 | --- | 1 | 2 ⁽³⁾ | (2) | 2 ⁽⁴⁾ | 1 |
| D | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | --- | --- | 3 | --- | --- |
| E | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 ⁽³⁾ | --- | --- | 3 | --- | --- |
| F-1 | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | 3 | 3 | --- | 2 | 2 |
| F-2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 ⁽⁴⁾ | --- | --- | 2 | --- | --- |
| F-3 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | --- | --- | 2 | --- | --- |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |

Notes to Table 3.1.3.1.:

(1) Section 3.3. contains requirements for the separation of occupancies and tenancies that are in addition to the requirements for the separation of major occupancies.

(2) See Sentence 3.1.3.2.(1).

(3) See Sentence 3.1.3.1.(2).

(4) See Sentence 3.1.3.2.(2).

(2) In a building not more than 3 storeys in building height, if not more than 2 dwelling units are contained together with a Group E major occupancy, the fire-resistance rating of the fire separation between the 2 major occupancies need not be more than 1 h.

(3) The fire separations required between major occupancies in Sentence (1) are permitted to be penetrated by floor openings protected in conformance with Subsection 3.2.8., except for fire separations for Group F, Division 1 major occupancies and for mezzanines described in Sentence 3.2.8.2.(1).

3.1.3.2. Prohibition of Occupancy Combinations

(1) No major occupancy of Group F, Division 1 shall be contained within a building with any occupancy classified as Group A, B or C.

(2) Except as provided in Sentence (4) and Sentence 3.10.2.4.(9), not more than one suite of residential occupancy shall be contained within a building classified as a Group F, Division 2 major occupancy.

(3) A sleeping room or sleeping area shall not open directly into a room or area where food is intended to be stored, prepared, processed, distributed, served, sold or offered for sale.

(4) A Group F, Division 2 major occupancy is permitted in a building containing only live/work units and is for the exclusive use of the occupants of the live/work units.

3.1.4. Combustible Construction

3.1.4.1. Combustible Materials Permitted

(1) A building permitted to be of combustible construction is permitted to be constructed of combustible materials described in Part 9, with or without noncombustible components.

3.1.4.2. Protection of Foamed Plastics

(1) Foamed plastics which form part of a wall or ceiling assembly in combustible construction shall be protected from adjacent spaces in the building, other than adjacent concealed spaces within attic or roof spaces, crawl spaces, and wall assemblies

(a) by one of the interior finishes described in Subsections 9.29.4. to 9.29.9.,

(b) by any thermal barrier that meets the requirements of Sentence 3.1.5.11.(2), or

(c) where the building does not contain a Group B or Group C major occupancy, by sheet metal

(i) mechanically fastened to the supporting assembly independent of the insulation,

(ii) not less than 0.38 mm thick, and

(iii) with a melting point not below 650°C.

3.1.4.3. Wires and Cables

(1) Optical fibre cables and electrical wires and cables installed in a building permitted to be of combustible construction shall

- (a) not convey flame or continue to burn for more than 1 min when tested in conformance with the Vertical Flame Test in Clause 4.11.1. of CAN/CSA-C22.2 No. 0.3, "Test Methods for Electrical Wires and Cables", or
- (b) be located in
- (i) totally enclosed *noncombustible* raceways,
 - (ii) concealed spaces in walls,
 - (iii) concrete slabs, or
 - (iv) totally enclosed nonmetallic raceways conforming to Article 3.1.5.19.
- (2) The requirement in Clause (1)(a) is considered to be met where the wires and cables
- (a) exhibit a vertical char of not more than 1.5 m when tested in conformance with the Vertical Flame Test - Cables in Cable-trough in Clause 4.11.4. of CSA C22.2 No. 0.3, "Test Methods for Electrical Wires and Cables" (FT4 Rating), or
 - (b) exhibit a flame-spread of not more than 1.5 m, a smoke density of not more than 0.5 at peak optical density and a smoke density not more than 0.15 at average optical density when tested in conformance with the Flame and Smoke Test in the Appendix to CSA C22.2 No. 0.3, "Test Methods for Electrical Wires and Cables" (FT6 Rating).
- (3) Service-entrance cables for communication and community antennae distribution systems need not conform to Sentence (1) provided
- (a) the service-entrance cables are located in a *building* permitted to be of *combustible construction* and are not more than 3 m in length from the point of entry into the *building* or from the point of leaving protection as required in Clause (1)(b), or

- (b) the service entrance cables enter into an electrical or telephone *service room* separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

3.1.4.4. Fire-Retardant Treated Wood

- (1) If *fire-retardant treated wood* is specified in this Part, the wood shall
- (a) be pressure impregnated with fire-retardant chemicals in conformance with CAN/CSA-O80 Series-M, "Wood Preservation", and
 - (b) have a *flame-spread rating* not more than 25.

3.1.4.5. Heavy Timber Construction Alternative

- (1) If *combustible construction* is permitted and is not required to have a *fire-resistance rating* more than 45 min, *heavy timber construction* is permitted to be used.
- (2) If *heavy timber construction* is permitted, it shall conform to Article 3.1.4.6.

3.1.4.6. Heavy Timber Construction

- (1) Wood elements in *heavy timber construction* shall be arranged in heavy solid masses and with essentially smooth flat surfaces to avoid thin sections and sharp projections.
- (2) The actual dimensions of solid sawn lumber used in *heavy timber construction* shall conform to CAN/CSA-O141, "Softwood Lumber".
- (3) Except as permitted by Sentences (4) to (7), the minimum dimensions of wood elements in *heavy timber construction* shall conform to Table 3.1.4.6.

Table 3.1.4.6.

Heavy Timber Dimensions

Forming Part of Sentence 3.1.4.6.(3)

| Supported Assembly | Structural Element | Solid Sawn (width x depth), mm x mm | Glued-Laminated (width x depth), mm x mm | Round (diam), mm |
|------------------------------|--|---|--|------------------------|
| Roofs only | Columns | 140 x 191 | 130 x 190 | 180 |
| | Arches supported on the tops of walls or abutments | 89 x 140 | 80 x 152 | --- |
| | Beams, girders and trusses | 89 x 140 | 80 x 152 | --- |
| | Arches supported at or near the floor line | 140 x 140 | 130 x 152 | --- |
| Floors, floors plus roofs | Columns | 191 x 191 | 175 x 190 | 200 |
| | Beams, girders, trusses and arches | 140 x 241 or 191 x 191 | 130 x 228 or 175 x 190 | --- |
| Column 1 | 2 | 3 | 4 | 5 |

(4) Roof arches supported on the tops of walls or abutments, roof trusses, roof beams and roof girders in *heavy timber construction* shall be spliced where necessary with splice plates not less than 64 mm thick and be

- (a) not less than 64 mm wide where 2 or more spaced members are used for the construction, with intervening spaces

- (i) blocked solidly throughout, or

- (ii) tightly closed by a continuous wood cover plate not less than 38 mm thick secured to the underside of the members, or

- (b) not less than 64 mm wide, provided there is automatic sprinkler protection under the roof deck.

(5) Floors in *heavy timber construction* shall be of glued-laminated or solid sawn plank not less than

- (a) 64 mm thick, splined or tongued and grooved, or

- (b) 38 mm wide and 89 mm deep set on edge and well-spiked together.

(6) Floors in *heavy timber construction* shall be laid

- (a) so that no continuous line of end joints will occur except at points of support, and covered with

- (i) tongued and grooved flooring not less than 19 mm thick laid cross-wise or diagonally, or

- (ii) tongued and grooved phenolic-bonded plywood, strand-board or waferboard not less than 12.5 mm thick, and

- (b) not closer than 15 mm to the walls to provide for expansion, with the gap covered at the top or bottom.

(7) Roofs in *heavy timber construction* shall be of tongued and grooved phenolic-bonded plywood not less than 28 mm thick, or glued-laminated or solid sawn plank that is

- (a) not less than 38 mm thick, splined or tongued and grooved, or

- (b) not less than 38 mm wide and 64 mm deep set on edge and laid so that no continuous line of end joints will occur except at the points of support.

(8) Wood columns in *heavy timber construction* shall be continuous or superimposed throughout all storeys.

(9) Superimposed wood columns in *heavy timber construction* shall be connected by

- (a) reinforced concrete or metal caps with brackets,

- (b) steel or iron caps with pintles and base plates, or

- (c) timber splice plates fastened to the columns by metal connectors housed within the contact faces.

(10) Where beams and girders in *heavy timber construction* enter masonry, wall plates, boxes of the self-releasing type or hangers shall be used.

(11) Wood girders and beams in *heavy timber construction* shall be closely fitted to columns, and adjoining ends shall be connected by ties or caps to transfer horizontal loads across the joints.

(12) In *heavy timber construction*, intermediate wood beams used to support a floor shall be supported on top of the girders or on metal hangers into which the ends of the beams are closely fitted.

3.1.4.7. Fabric Canopies

(1) Where a *building* is permitted to be of *combustible construction*, fabrics or films used as part of an exterior *canopy* shall conform to CAN/ULC-S109-M, "Standard for Flame Tests of Flame-Resistant Fabrics and Films".

3.1.5. Noncombustible Construction

3.1.5.1. Noncombustible Materials

(1) Except as permitted by Articles 3.1.5.2. to 3.1.5.23., 3.1.13.4. and 3.2.2.16., a *building* or part of a *building* required to be of *noncombustible construction*, shall be constructed with *noncombustible materials*.

3.1.5.2. Minor Combustible Components

(1) The following minor *combustible* components are permitted in a *building* required to be of *noncombustible construction*:

- (a) paint,

- (b) tightly adhering paper covering not more than 1 mm thick applied to a *noncombustible* backing provided the assembly has a *flame-spread rating* not more than 25,

- (c) mastics and caulking materials applied to provide flexible seals between the major components of exterior wall construction,

- (d) fire stop materials conforming to Sentence 3.1.9.1.(1) and Article 3.1.11.7.,

- (e) tubing for pneumatic controls provided it has an outside diameter not more than 10 mm,

- (f) adhesives, *vapour barriers* and sheathing papers,

- (g) electrical outlet and junction boxes,

- (h) wood blocking within wall assemblies intended for the attachment of handrails, fixtures, and similar items mounted on the surface of the wall, and

- (i) similar minor components.

3.1.5.3. Combustible Roofing Materials

(1) *Combustible* roof covering which has an A, B, or C classification determined in conformance with Subsection 3.1.15. is permitted on a *building* required to be of *noncombustible construction*.

(2) *Combustible* roof sheathing and roof sheathing supports installed above a concrete deck are permitted on a *building* required to be of *noncombustible construction* provided

- (a) the concrete deck is not less than 50 mm thick,

- (b) the height of the roof space above the deck is not more than 1 000 mm,

- (c) the roof space is divided into compartments by fire stops in conformance with Article 3.1.11.5.,

- (d) openings through the concrete deck other than for *noncombustible* roof drains and plumbing piping are protected by masonry or concrete shafts

- (i) constructed as *fire separations* having a *fire-resistance rating* not less than 1 h, and
 - (ii) extending from the concrete deck to not less than 150 mm above the adjacent roof sheathing, and
 - (e) the perimeter of the roof is protected by a *noncombustible* parapet extending from the concrete deck to not less than 150 mm above the adjacent sheathing, and
 - (f) except as permitted by Clause (d), the roof space does not contain any *building services*.
- (3) *Combustible* cant strips, roof curbs, nailing strips and similar components used in the installation of roofing are permitted on a *building* required to be of *noncombustible construction*.

(4) Wood nailer facings to parapets, not more than 600 mm high, are permitted on a *building* required to be of *noncombustible construction*, if the facings and any roof membranes covering the facings are protected by sheet metal.

3.1.5.4. Combustible Glazing and Skylights

(1) *Combustible* skylight assemblies are permitted in a *building* required to be of *noncombustible construction* if the assemblies have a *flame-spread rating* not more than

- (a) 150 provided the assemblies
 - (i) have an individual area not more than 9 m²,
 - (ii) have an aggregate horizontal projected area of the openings through the ceiling not more than 25% of the area of the ceiling of the room or space in which they are located, and
 - (iii) are spaced not less than 2 500 mm from adjacent assemblies and 1 200 mm from required *fire separations*, or
- (b) 75 provided the assemblies
 - (i) have an individual area not more than 27 m²,
 - (ii) have an aggregate horizontal projected area of the openings through the ceiling not more than 33% of the area of the ceiling of the room or space in which they are located, and
 - (iii) are spaced not less than 1 200 mm from adjacent assemblies and from required *fire separations*.

(2) *Combustible* vertical glazing installed no higher than the second *storey* is permitted in a *building* required to be of *noncombustible construction*.

(3) Except as permitted by Sentence (4), the *combustible* vertical glazing permitted by Sentence (2) shall have a *flame-spread rating* not more than 75.

(4) The *flame-spread rating* of *combustible* glazing in Sentence (2) is permitted to be not more than 150 if the aggregate area of glazing is not more than 25% of the wall area of the *storey* in which it is located, and

- (a) the glazing is installed in a *building* not more than 1 *storey* in *building height*,
- (b) the glazing in the *first storey* is separated from the glazing in the second *storey* in accordance with the requirements of Article 3.2.3.16. for opening protection, or

(c) sprinklers are installed in

- (i) any *storey* with *combustible* glazing, and
- (ii) the *storey* immediately above the *storey* with *combustible* glazing.

(5) *Combustible* window sashes and frames are permitted in a *building* required to be of *noncombustible construction* provided

- (a) each window in an exterior wall face is an individual unit separated by *noncombustible* wall construction from every other opening in the wall,
- (b) windows in exterior walls in contiguous *storeys* are separated by not less than 1 000 mm of *noncombustible construction*, and
- (c) the aggregate area of openings in an exterior wall face of a *fire compartment* is not more than 40% of the area of the wall face.

3.1.5.5. Combustible Components for Exterior Walls

(1) Except for an *exposing building face* required to conform to Sentence 3.2.3.7.(1) or Sentence 3.2.3.7.(4), an exterior non-loadbearing wall assembly that includes *combustible* components is permitted to be used in a *building* required to be of *noncombustible construction* provided

- (a) the *building* is
 - (i) not more than 3 *storeys* in *building height*, or
 - (ii) not more than 6 *storeys* in *building height* if *sprinklered*,
- (b) the interior surfaces of the wall assembly are protected by a thermal barrier conforming to Sentence 3.1.5.11.(3), and
- (c) the wall assembly satisfies the criteria of Sentences (2) and (3) when subjected to testing in conformance with CAN/ULC-S134, "Standard Method of Fire Test of Exterior Wall Assemblies".

(2) Flaming on or in the wall assembly shall not spread more than 5 m above the opening during the test procedure referenced in Sentence (1).

(3) The heat flux during the flame exposure on a wall assembly shall be not more than 35 kW/m² measured 3.5 m above the opening during the test procedure referenced in Sentence (1).

(4) A wall assembly permitted by Sentence (1) that includes *combustible* cladding of *fire-retardant treated wood* shall be tested for fire exposure after the cladding has been subjected to an accelerated weathering test as specified in ASTM D2898, "Methods for Accelerated Weathering on Fire-Retardant-Treated Wood for Fire Testing".

(5) Wood decorative cladding is permitted to be used on exterior *canopy* fascias of a *building* required to be of *noncombustible construction* provided the cladding is *fire-retardant treated wood* that has been, before testing, conditioned in conformance with ASTM D2898, "Methods for Accelerated Weathering on Fire-Retardant-Treated Wood for Fire Testing", and the *canopy* is

- (a) a first floor *canopy*, or
- (b) not more than 6 m above ground level

(6) The requirements in this Article do not apply where foamed plastic insulation is used in an exterior wall assembly of a *building* and the insulation is protected in conformance with Sentences 3.2.3.7.(7) and (8).

3.1.5.6. Nailing Elements

(1) Wood nailing elements attached directly to or set into a continuous *noncombustible* backing for the attachment of interior finishes, are permitted in a *building* required to be of *noncombustible construction* provided the concealed space created by the wood elements is not more than 50 mm thick.

3.1.5.7. Combustible Millwork

(1) *Combustible* millwork including interior trim, doors and door frames, show windows together with their frames, aprons and backing, handrails, shelves, cabinets and counters is permitted in a *building* required to be of *noncombustible construction*.

3.1.5.8. Combustible Flooring Elements

(1) *Combustible stage* flooring supported on *noncombustible* structural members is permitted in a *building* required to be of *noncombustible construction*.

(2) Wood members more than 50 mm but not more than 375 mm high applied directly to or set into a *noncombustible* floor slab are permitted for the construction of a raised platform in a *building* required to be of *noncombustible construction* provided the concealed spaces are fire stopped in conformance with Sentence 3.1.11.3.(2).

(3) The floor system for the raised platform referred to in Sentence (2) is permitted to include *combustible* subfloor and *combustible* finished flooring.

(4) *Combustible* finished flooring is permitted in a *building* required to be of *noncombustible construction*.

3.1.5.9. Combustible Stairs In Dwelling Units

(1) *Combustible* stairs are permitted in a *dwelling unit* in a *building* required to be of *noncombustible construction*.

3.1.5.10. Combustible Interior Finish

(1) *Combustible* interior finish, including paint, wallpaper, and other interior finishes not more than 1 mm thick, is permitted in a *building* required to be of *noncombustible construction*.

(2) *Combustible* interior wall finishes, other than foamed plastics, are permitted in a *building* required to be of *noncombustible construction* provided they

- (a) are not more than 25 mm thick, and
 - (b) have a *flame-spread rating* not more than 150 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction.
- (3) *Combustible* interior ceiling finishes, other than foamed plastics, are permitted in a *building* required to be of *noncombustible construction* provided they
- (a) are not more than 25 mm thick, except for exposed *fire-retardant treated wood* battens, and
 - (b) have a *flame-spread rating* not more than 25 on any exposed surface, or on any surface that would be exposed by cutting through the material in any direction, or are of *fire-retardant treated wood*, except that not more than 10% of the ceiling area within each *fire compartment* is permitted to have a *flame-spread rating* not more than 150.

3.1.5.11. Combustible Insulation and its Protection

(1) *Combustible* insulation, other than foamed plastics, is permitted in a *building* required to be of *noncombustible construction* provided that it has a *flame-spread rating* not more than 25 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, where the insulation is not protected as described in Sentences (3) and (4).

(2) Foamed plastic insulation having a *flame-spread rating* not more than 25 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in a *building* required to be of *noncombustible construction* provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier consisting of

- (a) not less than 12.7 mm thick gypsum board mechanically fastened to a supporting assembly independent of the insulation,
- (b) lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,
- (c) masonry,
- (d) concrete, or
- (e) any thermal barrier that meets the requirements of classification B when tested in conformance with CAN4-S124-M, "Standard Method of Test for the Evaluation of Protective Coverings for Foamed Plastic".

(3) *Combustible* insulation having a *flame-spread rating* more than 25 but not more than 500 on an exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the exterior walls of a *building* required to be of *noncombustible construction*, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier as described in Sentence (2), except that in a *building* that is not *sprinklered* and is more than 18 m high, measured between *grade* and the floor level of the top *storey*, or in a *building* that is not *sprinklered* and is regulated by the provisions of Subsection 3.2.6., the insulation shall be protected by a thermal barrier consisting of

- (a) gypsum board not less than 12.7 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled,
- (b) lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,
- (c) masonry or concrete not less than 25 mm thick, or
- (d) any thermal barrier that, when tested in conformance with CAN/ULC-S101-M, "Standard Methods of Fire Endurance Tests of Building Construction and Materials", will not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 10 min.

(4) *Combustible* insulation having a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the interior walls, within ceilings and within roof assemblies of a *building* required to be of *noncombustible construction*, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier as described in Sentence (2), except that in a *building* that is not *sprinklered* and is more than 18 m high, measured between *grade* and the floor level of the top *storey*, or in a *building* that is not

sprinklered and is regulated by the provisions of Subsection 3.2.6., the insulation shall be protected by a thermal barrier consisting of

- (a) Type X gypsum board not less than 15.9 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled, conforming to

- (i) CAN/CSA-A82.27-M, "Gypsum Board",

- (ii) ASTM C 36, "Gypsum Wallboard",

- (iii) ASTM C 442, "Gypsum Backing Board and Coreboard",

- (iv) ASTM C 588, "Gypsum Base for Veneer Plaster",

- (v) ASTM C 630, "Water Resistant Gypsum Board Backing",

- (vi) ASTM C 931, "Exterior Gypsum Soffit Board", or

- (vii) ASTM C 960, "Predecorated Gypsum Board",

- (b) non-loadbearing masonry or concrete not less than 50 mm thick,

- (c) loadbearing masonry or concrete not less than 75 mm thick, or

- (d) any thermal barrier that, when tested in conformance with CAN/ULC-S101-M, "Standard Methods of Fire Endurance Tests of Building Construction and Materials",

- (i) will not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 20 min, and

- (ii) will remain in place for not less than 40 min.

(5) *Combustible* insulation, including foamed plastics, installed above roof decks, outside of *foundation walls* below ground level and beneath concrete slabs-on-ground is permitted to be used in a *building* required to be of *noncombustible construction*.

(6) Thermosetting foamed plastic insulation having a *flame-spread rating* not more than 500 which forms part of a factory-assembled exterior wall panel that does not incorporate an air space is permitted to be used in a *building* required to be of *noncombustible construction* provided

- (a) the foamed plastic is protected on both sides by sheet steel not less than 0.38 mm thick which will remain in place for not less than 10 min when the wall panel is tested in conformance with CAN/ULC-S101-M, "Standard Methods of Fire Endurance Tests of Building Construction and Materials",

- (b) the *flame-spread rating* of the wall panel, determined by subjecting a sample including an assembled joint to the appropriate test described in Subsection 3.1.12., is not more than the *flame-spread rating* permitted for the room or space which it bounds,

- (c) the *building* does not contain a Group B or Group C *major occupancy*, and

- (d) the *building* is not more than 18 m high, measured between *grade* and the floor level of the top *storey*.

(7) Foamed plastic insulation having a *flame-spread rating* of not more than 500 which forms part of a factory-assembled interior or exterior wall or ceiling panel that does not incorporate an air space is permitted to be used in a *building* required to be of *noncombustible construction* provided

- (a) the *building* is *sprinklered*,

- (b) the *building* is not more than 18 m high, measured between *grade* and the floor level of the uppermost *storey*,

- (c) the *building* does not contain a Group A, B or C *major occupancy*,

- (d) the panels are *listed* for compliance with ULC/ORD C376-1995, "Fire Growth of Foamed Plastic Insulated Building Panels in a Full-Scale Room Configuration", and

- (e) the *flame-spread rating* of the wall panel, determined by subjecting a sample, including an assembled joint, to the appropriate test described in Subsection 3.1.12., is not more than the *flame-spread rating* permitted for the room or space which it bounds.

3.1.5.12. Combustible Elements in Partitions

(1) Except as permitted by Sentence (2), solid lumber *partitions* not less than 38 mm thick and wood framing in *partitions* located in a *fire compartment* not more than 600 m² in area are permitted to be used in a *building* required to be of *noncombustible construction* in a *floor area* that is not *sprinklered* provided the *partitions*

- (a) are not required *fire separations*, and

- (b) are not located in a *care or detention occupancy*.

(2) *Partitions* installed in a *building* of *noncombustible construction* are permitted to contain wood framing provided

- (a) the *building* is not more than 3 *storeys* in *building height*,

- (b) the *partitions* are not located in a *care or detention occupancy*, and

- (c) the *partitions* are not installed as enclosures for *exits* or *vertical service spaces*.

(3) Solid lumber *partitions* not less than 38 mm thick and *partitions* that contain wood framing are permitted to be used in a *building* required to be of *noncombustible construction* provided

- (a) the *floor area* containing the *partitions* is *sprinklered*, and

- (b) the *partitions* are not

- (i) located in a *care or detention occupancy*,

- (ii) installed as enclosures for *exits* or *vertical service spaces*, or

- (iii) used to satisfy the requirements of Clause 3.2.8.1.(1)(a).

3.1.5.13. Storage Lockers in Residential Buildings

(1) Storage lockers in storage rooms are permitted to be constructed of wood in a *building* of *residential occupancy* required to be of *noncombustible construction*.

3.1.5.14. Combustible Ducts

(1) Except as required by Sentence 3.6.4.3.(1), *combustible* ducts, including *plenums* and duct connectors, are permitted to be used in a *building* required to be of *noncombustible construction* provided these ducts and duct connectors are used only in horizontal runs.

(2) *Combustible* duct linings, duct coverings, duct insulation, vibration isolation connectors, duct tape, pipe insulation and pipe

coverings are permitted to be used in a *building* required to be of *noncombustible construction* provided they conform to the appropriate requirements of Part 6.

(3) In a *building* required to be of *noncombustible construction*, *combustible* ducts need not comply with the requirements of Part 6 provided the ducts are

- (a) part of a duct system conveying only ventilation air, and
- (b) contained entirely within a *dwelling unit*.

3.1.5.15. Combustible Piping Materials

(1) Except as permitted by Clause 3.1.5.2.(1)(e), Sentences (2) and (3), and Article 3.1.5.21., *combustible* piping and tubing and associated adhesives are permitted to be used in a *building* required to be of *noncombustible construction* provided that, except when concealed in a wall or concrete floor slab, they

- (a) have a *flame-spread rating* not more than 25, and
- (b) if used in a *building* described in Subsection 3.2.6., have a smoke developed classification not more than 50.

(2) *Combustible* sprinkler piping is permitted to be used within a *sprinklered floor area* in a *building* required to be of *noncombustible construction*.

(3) Polypropylene pipes and fittings are permitted to be used for drain, waste and vent piping for the conveyance of highly corrosive materials and for piping used to distribute distilled or dialyzed water in laboratory and hospital facilities in a *building* required to be of *noncombustible construction*, provided

- (a) the *building* is *sprinklered*,
- (b) the piping is not located in a vertical shaft, and
- (c) piping that penetrates a *fire separation* is sealed at the penetration by a fire stop system that, when subjected to the fire test method in CAN4-S115-M, "Standard Method of Fire Tests of Firestop Systems", has an FT rating not less than the *fire-resistance rating* of the *fire separation*.

3.1.5.16. Combustible Plumbing Fixtures

(1) *Combustible plumbing fixtures*, including wall and ceiling enclosures that form part of the *plumbing fixture*, are permitted in a *building* required to be of *noncombustible construction* provided they are constructed of material having a *flame-spread rating* and smoke developed classification not more than that permitted for the wall surface of the room or space in which they are installed.

3.1.5.17. Wires and Cables

(1) Except as permitted by Articles 3.1.5.18. and 3.1.5.20, optical fibre cables and electrical wires and cables with *combustible* insulation, jackets or sheathes are permitted in a *building* required to be of *noncombustible construction*, provided

- (a) the wires and cables exhibit a vertical char of not more than 1.5 m when tested in conformance with the Vertical Flame Test - Cables in Cabletrough in Clause 4.11.4. of CAN/CSA-C22.2 No. 0.3, "Test Methods for Electrical Wires and Cables" (FT4 Rating),
- (b) the wires and cables are located in
 - (i) totally enclosed *noncombustible* raceways,

(ii) concealed spaces in walls,

(iii) concrete slabs,

(iv) a *service room* separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h, or

(v) totally enclosed nonmetallic raceways conforming to Article 3.1.5.19., or

(c) the wires and cables are communication cables used at the service entry to a *building* and are not more than 3 m long.

(2) The requirement in Clause (1)(a) is considered to be met where the wires and cables exhibit a flame-spread of not more than 1.5 m, a smoke density of not more than 0.5 at peak optical density and a smoke density not more than 0.15 at average optical density when tested in conformance with the Flame and Smoke Test in the Appendix to CSA C22.2 No. 0.3, "Test Methods for Electrical Wires and Cables" (FT6 Rating).

3.1.5.18. Combustible Travelling Cables for Elevators

(1) *Combustible* travelling cables are permitted on elevating devices in a *building* required to be of *noncombustible construction*.

3.1.5.19. Nonmetallic Raceways

(1) Totally enclosed nonmetallic raceways not more than 625 mm² in cross-sectional area are permitted to be used in a *building* required to be of *noncombustible construction* to enclose optical fibre cables and electrical wires and cables, provided the raceways exhibit a vertical char not more than 1.5 m when tested in conformance with the Vertical Flame Test (FT4 Rating) - Conduit or Tubing on Cable Tray in Clause 6.16 of CSA C22.2 No. 211.0-M, "General Requirements and Methods of Testing for Nonmetallic Conduit".

3.1.5.20. Wires in Computer Room Floors

(1) Optical fibre cables and electrical wires and cables with *combustible* insulation, jackets or sheathes, located in the space below a raised floor in a *computer room*, are permitted in a *building* required to be of *noncombustible construction* provided they do not convey flame or continue to burn for more than 1 min when tested in conformance with the Vertical Flame Test in Clause 4.11.1. of CSA C22.2 No. 0.3, "Test Methods for Electrical Wires and Cables" (FT1 Rating).

(2) The requirement in Sentence (1) is considered to be met where the wires and cables

- (a) exhibit a vertical char of not more than 1.5 m when tested in conformance with the Vertical Flame Test - Cables in Cabletrough in Clause 4.11.4. of CSA C22.2 No. 0.3, "Test Methods for Electrical Wires and Cables" (FT4 Rating), or
- (b) exhibit a flame-spread of not more than 1.5 m, a smoke density of not more than 0.5 at peak optical density and a smoke density not more than 0.15 at average optical density when tested in conformance with the Flame and Smoke Test in the Appendix to CSA C22.2 No. 0.3, "Test Methods for Electrical Wires and Cables" (FT6 Rating).

3.1.5.21. Combustible Components in Public Pools

(1) *Combustible* fittings and components in a *public pool*, including main drains, piping, skimmers, return inlets, steps, ladder rungs and liners are permitted in a *building* required to be of *noncombustible construction*.

3.1.5.22. Canopies Having Combustible Elements

(1) Exterior *canopies* having *combustible* fabrics or films are permitted on a *building* required to be of *noncombustible construction* provided the fabrics and films conform to CAN/ULC-S109-M, "Standard for Flame Tests of Flame-Resistant Fabrics and Films".

(2) Except as permitted in Sentence (3), exterior *marquees*, not greater than 7.5 m from ground level to the top of the *marquee*, having *combustible* elements other than fabrics or films conforming to Sentence (1), are permitted on a *building* required to be of *noncombustible construction*, provided every opening in the exposed wall of the *building* above the *marquee* is protected with wired glass in accordance with the Supplementary Guidelines where these openings are within

(a) 4.5 m horizontally of the *marquee*, and

(b) 9 m vertically above the *marquee*.

(3) The protection required by Sentence (2) is permitted to be waived if the *building* is *sprinklered*.

3.1.5.23. Combustible Mezzanines

(1) In a *building* required to be of *noncombustible construction*, a *mezzanine* located within a *live/work unit* is permitted to be of *combustible construction* provided the area of the *mezzanine* is not more than 25% of the *floor area* of the *live/work unit* or 20 m², whichever is less, and has no obstructions more than 1 070 mm above the floor.

3.1.6. Reserved**3.1.7. Fire-Resistance Ratings****3.1.7.1. Determination of Ratings**

(1) Except as permitted by Sentence (2) and Article 3.1.7.2., the rating of a material, assembly of materials or a structural member that is required to have a *fire-resistance rating*, shall be determined on the basis of the results of tests conducted in conformance with CAN/ULC-S101-M, "Standard Methods of Fire Endurance Tests of Building Construction and Materials".

(2) A material, assembly of materials or a structural member is permitted to be assigned a *fire-resistance rating* on the basis of the Supplementary Guidelines.

3.1.7.2. Exception for Exterior Walls

(1) The limit on the rise of temperature on the unexposed surface of an assembly as required by the tests referred to in Sentence 3.1.7.1.(1) shall not apply to an exterior wall that has a *limiting distance* of 1.2 m or more, provided correction is made for radiation from the unexposed surface in accordance with Sentence 3.2.3.1.(6).

3.1.7.3. Exposure Conditions for Rating

(1) Floor, roof and ceiling assemblies shall be rated for exposure to fire on the underside.

(2) *Firewalls* and interior vertical *fire separations* shall be rated for exposure to fire on each side.

(3) Exterior walls shall be rated for exposure to fire from inside the *building*.

3.1.7.4. Minimum Fire-Resistance Rating

(1) The use of materials or assemblies having a greater *fire-resistance rating* than required shall impose no obligation to exceed in whole or in part the minimum *fire-resistance ratings* required by this Part.

3.1.7.5. Rating of Supporting Construction

(1) Except as permitted by Sentence (2) and by Articles 3.2.2.20. to 3.2.2.83. for mixed types of construction, all *loadbearing* walls, columns and arches in the *storey* immediately below a floor or roof assembly required to have a *fire-resistance rating* shall have a *fire-resistance rating* not less than that required for the supported floor or roof assembly.

(2) *Loadbearing* walls, columns and arches supporting a *service room* or *service space* need not conform to Sentence (1).

(3) If an assembly is required to be of *noncombustible construction* and have a *fire-resistance rating*, it shall be supported by *noncombustible construction*.

3.1.8. Fire Separations and Closures**3.1.8.1. General Requirements**

(1) Any wall, *partition* or floor assembly required to be a *fire separation* shall

(a) except as permitted by Sentence (2), be constructed as a continuous element, and

(b) as required in this Part, have a *fire-resistance rating* as specified.

(2) Openings in a *fire separation* shall be protected with *closures*, shafts or other means in conformance with Articles 3.1.8.4. to 3.1.8.17. and Subsections 3.1.9. and 3.2.8.

3.1.8.2. Combustible Construction Support

(1) *Combustible construction* that abuts on or is supported by a *noncombustible fire separation* shall be constructed so that its collapse under fire conditions will not cause the collapse of the *fire separation*.

3.1.8.3. Continuity of Fire Separations

(1) Except as permitted by Sentence 3.6.4.2.(2), a *horizontal service space* or other concealed space located above a required vertical *fire separation*, including the walls of a vertical shaft, shall be divided at the *fire separation* by an equivalent *fire separation* within the *service space*.

(2) The *fire separation* required by Sentence (1) shall terminate so that smoke-tight joints are provided where it abuts on or intersects

(a) a floor,

(b) a roof slab, or

(c) a roof deck.

(3) Except as required by Subsection 3.6.3. for a shaft penetrating a roof assembly, a shaft, including an *exit enclosure*, that penetrates a *fire separation*, shall

(a) extend through any *horizontal service space* or any other concealed space, and

(b) terminate so that smoke-tight joints are provided where the shaft abuts on or intersects

- (i) a floor,
- (ii) a roof slab, or
- (iii) a roof deck.

3.1.8.4. Determination of Ratings

(1) Except as permitted by Sentences (2) and 3.1.8.14.(2), the *fire-protection rating* for a *closure* shall be determined on the basis of the results of tests conducted in conformance with the appropriate provisions in

- (a) CAN4-S104-M, "Standard Method for Fire Tests of Door Assemblies",
- (b) CAN4-S106-M, "Standard Method for Fire Tests of Window and Glass Block Assemblies", or
- (c) CAN/ULC-S112-M, "Standard Method of Fire Test of Fire-Damper Assemblies".

(2) Except as permitted by Sentence 3.1.8.10.(1), the *fire-protection rating* of a *closure* shall conform to Table 3.1.8.4. for the required *fire-resistance rating* of the *fire separation*.

Table 3.1.8.4.

Fire Protection Rating of Closure

Forming Part of Sentence 3.1.8.4.(2)

| Fire-Resistance Rating of Fire Separation | Required Fire-Protection Rating of Closure |
|---|--|
| 30 min | 20 min |
| 45 min | 45 min |
| 1 h | 45 min |
| 1.5 h | 1 h |
| 2 h | 1.5 h |
| 3 h | 2 h |
| 4 h | 3 h |
| Column 1 | 2 |

3.1.8.5. Installation of Closures

(1) Except where fire dampers, window assemblies and glass block are used as *closures*, *closures* of the same *fire-protection rating* installed on opposite sides of the same opening are deemed to have a *fire-protection rating* equal to the sum of the *fire-protection ratings* of the *closures*.

(2) Except as otherwise specified in this Part, every door, window assembly or glass block used as a *closure* in a required *fire separation*

- (a) shall be installed in conformance with NFPA 80, "Standard for Fire Doors and Fire Windows", and
- (b) where required to have a *fire-protection rating*, shall have labels or classification marks to identify the testing laboratory.

(3) If a door is installed so that it could damage the integrity of a *fire separation* if its swing is unrestricted, door stops shall be installed to prevent the damage.

3.1.8.6. Maximum Openings

(1) The size of an opening in an interior *fire separation* required to be protected with a *closure* shall be not more than 11 m², with no dimension more than 3.7 m, if a *fire compartment* on either side of the *fire separation* is not sprinklered.

(2) The size of an opening in an interior *fire separation* required to be protected with a *closure* shall be not more than 22 m², with no dimension more than 6 m, provided the *fire compartments* on both sides of the *fire separation* are sprinklered.

3.1.8.7. Fire Dampers

(1) Except as permitted by Article 3.1.8.8., a duct that connects 2 *fire compartments* or that penetrates an assembly required to be a *fire separation* shall be equipped with a *fire damper*.

(2) A *fire damper* required by Sentence (1) or a *fire damper* used as a *closure* in a *fire separation* shall have a *fire-protection rating* conforming to Sentence 3.1.8.4.(2).

3.1.8.8. Fire Dampers Waived

(1) *Fire dampers* need not be provided in *noncombustible* branch ducts that have a melting point above 760°C and that penetrate a required *fire separation* provided the ducts

- (a) serve only air-conditioning units or combined air-conditioning and heating units discharging air not more than 1 200 mm above the floor and have a cross-sectional area not more than 0.013 m², or
- (b) are connected to exhaust duct risers that are under negative pressure and in which the air flow is upward as required by Article 3.6.3.4. and are carried up inside the riser not less than 500 mm.

(2) A continuous *noncombustible* duct penetrating a vertical *fire separation* not required to have a *fire-resistance rating* need not be equipped with a *fire damper* at the *fire separation*.

(3) A *noncombustible* duct that penetrates a horizontal *fire separation* not required to have a *fire-resistance rating* need not be equipped with a *fire damper* at the *fire separation*.

(4) A *noncombustible* duct that penetrates a *fire separation* that separates a vertical *service space* from the remainder of the building need not be equipped with a *fire damper* at the *fire separation* provided

- (a) the duct has a melting point above 760°C, and
- (b) each individual duct exhausts directly to the outside at the top of the vertical *service space*.

(5) A continuous *noncombustible* duct having a melting point above 760°C that penetrates a vertical *fire separation* as required by Sentence 3.3.1.1.(1) between *suites* of other than *residential* or *care or detention occupancy* need not be equipped with a *fire damper* at the *fire separation*.

(6) A duct that serves commercial cooking equipment and penetrates a required *fire separation* need not be equipped with a *fire damper* at the *fire separation*.

(7) In elementary and secondary schools, a continuous *noncombustible* duct having a melting point above 760°C that pierces a *fire separation* having a *fire-resistance rating* of 30 min need not be equipped with a *fire damper* at the *fire separation*.

3.1.8.9. Installation of Fire Dampers

(1) A *fire damper* shall be arranged to close automatically upon the operation of a fusible link conforming to ULC-S505, "Standard for Fusible Links for Fire Protection Service", or other heat-actuated or smoke-actuated device.

(2) A heat-actuated device referred to in Sentence (1) shall

(a) be located where it is readily affected by an abnormal rise of temperature in the duct, and

(b) have a temperature rating approximately 30°C above the maximum temperature that would exist in the system either with the system in operation or shut down.

(3) A *fire damper* shall be installed in the plane of the *fire separation* so as to stay in place should the duct be dislodged during a fire.

(4) A *fire damper* tested in the vertical or horizontal position shall be installed in the manner in which it was tested.

(5) A tightly fitted access door shall be installed for each *fire damper* to provide access for the inspection of the damper and the resetting of the release device.

3.1.8.10. Twenty-Minute Closures

(1) A door assembly having a *fire-protection rating* not less than 20 min is permitted to be used as a *closure* in

(a) a *fire separation* not required to have a *fire-resistance rating* more than 1 h, located between

(i) a *public corridor* and a *suite*,

(ii) a corridor and adjacent sleeping rooms, or

(iii) a corridor and adjacent classrooms, offices and libraries in Group A, Division 2 *major occupancies*, or

(b) a *fire separation* not required to have a *fire-resistance rating* more than 45 min, located in a *building* not more than 3 storeys in *building height*.

(2) The requirements for *noncombustible* sills and *combustible* floor coverings in NFPA 80, "Standard for Fire Doors and Fire Windows", do not apply to a door described in Sentence (1).

(3) A door described in Sentence (1) shall have a clearance not more than 6 mm at the bottom and not more than 3 mm at the sides and top.

(4) In elementary and secondary schools, a door assembly conforming to Articles 9.10.13.2. and 9.10.13.3. is permitted to be used as a *closure* in a *fire separation* having a *fire-resistance rating* of 30 min.

3.1.8.11. Self-Closing Devices

(1) Except as provided in Sentences (2) to (5), every door in a *fire separation* shall be equipped with a self-closing device designed to return the door to the closed position after each use.

(2) Self-closing devices need not be provided on doors to freight elevators and dumbwaiters.

(3) In a *building* that is not more than 3 storeys in *building height*, a self-closing device is not required on a door that is located between a classroom and a corridor providing *access to exit* from the classroom, except that a self-closing device is required on a door between a

hazardous classroom and the corridor in an elementary or secondary school.

(4) In a *building* that is not more than 3 storeys in *building height*, a self-closing device is not required on a door between a *public corridor* and an adjacent room or *suite* of *business and personal services occupancy* if the door is not located in

(a) a dead-end portion of the corridor, or

(b) a corridor which serves a *hotel*.

(5) Within a *fire compartment* in a hospital or nursing home that complies with the requirements of Article 3.3.3.5., a self-closing device is not required on a door that is located between

(a) a patient's or resident's sleeping room and a corridor serving the patient's or resident's sleeping room, or

(b) a patient's or resident's sleeping room and an adjacent room that serves the patient's or resident's sleeping room.

3.1.8.12. Hold-Open Devices

(1) A hold-open device is permitted on a door in a required *fire separation*, other than an *exit* door in a *building* more than 3 storeys in *building height*, and on a door for a vestibule required by Article 3.3.5.7., provided the device is designed to release the door in conformance with Sentences (2) to (7).

(2) Except as required by Sentences (3), (5), (6) and (7), a hold-open device permitted by Sentence (1) shall be designed to release by a signal from

(a) an automatic sprinkler system,

(b) a heat-actuated device,

(c) fusible link, or

(d) a *smoke detector* located as described in Appendix B of NFPA 80, "Standard for Fire Doors and Fire Windows".

(3) Except as required by Sentences (4), (5), (6) and (7), a hold-open device permitted by Sentence (1) shall be designed to release upon a signal from a *smoke detector* located as described in Appendix B of NFPA 80, "Standard for Fire Doors and Fire Windows", if used on

(a) an *exit* door,

(b) a door opening into a *public corridor*,

(c) an egress door referred to in Sentence 3.4.2.4.(2),

(d) a door serving

(i) an *assembly occupancy*,

(ii) a *care or detention occupancy*, or

(iii) a *residential occupancy*, or

(e) a door required to function as part of a smoke control system.

(4) Except as required by Sentences (5), (6) and (7), a hold-open device permitted by Sentence (1) shall be designed to release upon a signal from the *building* fire alarm system if a fire alarm system is provided, except that this requirement does not apply to

(a) a hold-open device on a door located between a corridor used by the public and an adjacent sleeping room in a hospital or nursing home, or

- (b) a hold-open device that is designed to release by a heat-actuated device or a fusible link in conformance with Sentence (2).
- (5) Sentences (2) and (3) do not apply in a hospital or nursing home to
- (a) a door located between a corridor used by the public and an adjacent sleeping room, or
- (b) paired doors described in Sentence 3.3.3.3.(4).
- (6) A hold-open device on a door in Clause (5)(a) shall be designed to release the door upon a signal from
- (a) a *smoke detector* as required by Sentence 3.2.4.11.(1) for sleeping rooms in Group B *occupancies*, and
- (b) the fire alarm system when an *alert signal* is initiated within the same *fire compartment* in Sentence 3.3.3.5.(2).
- (7) A hold-open device on a door in Clause (5)(b) shall be designed to release the door upon a signal from the fire alarm system when an *alert signal* is initiated within the same *fire compartment* in Sentence 3.3.3.5.(2).
- (8) A rolling steel fire door installed as a *closure* in a *fire separation* shall be equipped with a hold-open device designed to release the shutter as described in Sentence (2).

3.1.8.13. Door Latches

- (1) Except as permitted by Article 3.3.3.5., a swing-type door in a *fire separation* shall be equipped with a positive latching mechanism designed to hold the door in the closed position after each use.

3.1.8.14. Wired Glass and Glass Block

- (1) Except as permitted by Articles 3.1.8.16. and 3.1.8.17. for the separation of *exits*, an opening in a *fire separation* having a *fire-resistance rating* not more than 1 h is permitted to be protected with fixed wired glass assemblies or glass blocks installed in conformance with NFPA 80, "Standard for Fire Doors and Fire Windows".

- (2) Wired glass assemblies permitted by Sentence (1) and assigned a fire protection capability in the Supplementary Guidelines, are permitted to be used as *closures* in vertical *fire separations* without being tested in accordance with Sentence 3.1.8.4.(1).

- (3) Glass blocks permitted by Sentence (1) shall be installed in accordance with Subsection 4.3.2. and reinforced with steel reinforcement in each horizontal joint.

3.1.8.15. Temperature Rise Limit for Doors

- (1) Except as permitted by Article 3.1.8.17., the maximum temperature rise on the opaque portion of the unexposed side of a door used as a *closure* in a *fire separation* in a location shown in Table 3.1.8.15., shall conform to the Table when tested in conformance with Sentence 3.1.8.4.(1).

3.1.8.16. Area Limits for Wired Glass and Glass Block

- (1) Except as permitted by Article 3.1.8.17., the maximum area of wired glass in a door used in the locations shown in Table 3.1.8.15. shall conform to the Table.

- (2) Except as permitted by Article 3.1.8.17., the maximum area of glass block and wired glass panels not in a door, used in the locations shown in Table 3.1.8.15., shall conform to the Table.

Table 3.1.8.15.

Restrictions on Temperature Rise and Glazing for Closures

Forming Part Articles of 3.1.8.15. and 3.1.8.16.

| Location | Minimum Required Fire-Protection Rating of Door | Maximum Temperature Rise on Opaque Portion of Unexposed Side of Door, °C | Maximum Area of Wired Glass in Door, m ² | Maximum Aggregate Area of Glass Block and Wired Glass Panels not in Door, m ² |
|---|---|--|---|--|
| Between a dead-end corridor and an adjacent <i>occupancy</i> where the corridor provides the only <i>access to exit</i> and is required to have a <i>fire-resistance rating</i> | Less than 45 min | No limit | No limit | No limit |
| | 45 min | 250 after 30 min | 0.0645 | 0.0645 |
| Between an <i>exit</i> enclosure and the remainder of the <i>floor area</i> in <i>buildings</i> not more than 3 <i>storeys</i> in <i>building height</i> | All ratings | No limit | 0.8 | 0.8 |
| Between an <i>exit</i> enclosure and the remainder of the <i>floor area</i> (except as permitted above) | 45 min | 250 after 30 min | 0.0645 | 0.0645 |
| | 1.5 h | 250 after 1 h | 0.0645 | 0.0645 |
| | 2 h | 250 after 1 h | 0.0645 | 0.0645 |
| In a <i>firewall</i> | 1.5 h | 250 after 30 min | 0.0645 | 0 |
| | 2 h | 250 after 1 h | 0 | 0 |
| Column 1 | 2 | 3 | 4 | 5 |

3.1.8.17. Temperature Rise and Area Limits Waived

(1) The temperature rise limits and glass area limits required by Articles 3.1.8.15. and 3.1.8.16. are waived for a *closure* between an *exit* enclosure and an enclosed vestibule or corridor provided

- (a) the vestibule or corridor is separated from the remainder of the floor area by a *fire separation* having a *fire-resistance rating* not less than 45 min,
- (b) the *fire separation* required by Clause (a) contains no wired glass or glass block within 3 m of the *closure* into the *exit* enclosure, and
- (c) the vestibule or corridor contains no *occupancy*.

3.1.9. Building Services in Fire Separations and Fire Rated Assemblies**3.1.9.1. Fire Stopping of Service Penetrations**

(1) Piping, tubing, ducts, *chimneys*, optical fibre cables, electrical wires and cables, totally enclosed *noncombustible* raceways, electrical outlet boxes and other similar *building services* that penetrate a membrane forming part of an assembly required to have a *fire-resistance rating*, or a *fire separation*, shall be

- (a) tightly fitted, or
- (b) sealed by a fire stop system that, when subjected to the fire test method in CAN4-S115-M, "Standard Method of Fire Tests of Firestop Systems", has an F rating not less than the *fire-protection rating* required for *closures* in the *fire separation*.

(2) Piping, tubing, ducts, *chimneys*, optical fibre cables, electrical wires and cables, totally enclosed *noncombustible* raceways, electrical outlet boxes and other similar *building services* that penetrate a *firewall* or a horizontal *fire separation* that is required to have a *fire-resistance rating* in conformance with Article 3.2.1.2., shall be sealed at the penetration by a fire stop system that, when subjected to the fire test method in CAN4-S115-M, "Standard Method of Fire Tests of Firestop Systems", has an FT rating not less than the *fire-resistance rating* for the *fire separation*.

3.1.9.2. Combustibility of Service Penetrations

(1) Except as permitted by Articles 3.1.9.3. and 3.1.9.4., pipes, ducts, electrical outlet boxes, totally enclosed raceways or other similar service equipment that penetrate an assembly required to have a *fire-resistance rating* shall be *noncombustible* unless the assembly has been tested incorporating that service equipment.

3.1.9.3. Penetration by Wires, Cables and Outlet Boxes

(1) Optical fibre cables and electrical wires and cables in totally enclosed *noncombustible* raceways are permitted to penetrate an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required by Article 3.1.9.2.

(2) Except as permitted by Sentence (3), totally enclosed nonmetallic raceways conforming to Article 3.1.5.19., optical fibre cables, and electrical wires and cables, single or grouped, with *combustible* insulation, jackets or sheaths that conform to the requirements of Clause 3.1.5.17.(1)(a) and that are not installed in totally enclosed *noncombustible* raceways are permitted to penetrate an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required by Article 3.1.9.2., provided the overall diameter of the single or grouped wires or cables, or the raceways is not more than 25 mm.

(3) Single conductor metal sheathed cables with *combustible* jacketing that are more than 25 mm in overall diameter are permitted to penetrate a *fire separation* required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required by Article 3.1.9.2., provided the cables are not grouped.

(4) *Combustible* totally enclosed raceways which are embedded in a concrete floor slab are permitted in an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required by Article 3.1.9.2., provided the concrete cover between the raceway and the bottom of the slab is not less than 50 mm.

(5) *Combustible* outlet boxes are permitted in an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required by Article 3.1.9.2., provided the opening through the membrane into the box is not more than 0.016 m².

(6) Outlet boxes that penetrate opposite sides of a wall assembly shall be offset where necessary to maintain the integrity of the *fire separation*.

3.1.9.4. Combustible Piping Penetrations

(1) *Combustible* sprinkler piping is permitted to penetrate a *fire separation* provided the *fire compartments* on each side of the *fire separation* are *sprinklered*.

(2) Reserved

(3) Except as permitted by Sentences (4) to (8), *combustible* piping shall not be used if any part of that system penetrates

(a) a *fire separation* required to have a *fire-resistance rating*, or

(b) a membrane that forms part of an assembly required to have a *fire-resistance rating*.

(4) *Combustible* piping is permitted to penetrate a *fire separation* required to have a *fire-resistance rating* or a membrane that forms part of an assembly required to have a *fire-resistance rating*, provided

(a) the piping is sealed at the penetration by a fire stop system that has an F rating not less than the *fire-resistance rating* required for the *fire separation* when subjected to the fire test method in CAN4-S115-M, "Standard Method of Fire Tests of Firestop Systems", with a pressure differential of 50 Pa between the exposed and unexposed sides, with the higher pressure on the exposed side, and

(b) the piping is not located in a vertical shaft.

(5) *Combustible* drain piping is permitted to penetrate a horizontal *fire separation* provided it leads directly from a *noncombustible* water closet through a concrete floor slab.

(6) *Combustible* piping is permitted on one side of a vertical *fire separation* provided it is not located in a vertical shaft.

(7) *Combustible* piping is permitted to penetrate a vertical or horizontal *fire separation* provided the *fire compartments* on each side of the *fire separation* are *sprinklered*.

(8) *Combustible* piping not more than 25 mm in diameter containing chlorine gas is permitted to penetrate a *fire separation* between a chlorine gas *service room* built in conjunction with a *public pool*, and the remainder of the *building*.

3.1.9.5. Openings through a Membrane Ceiling

(1) A membrane ceiling forming part of an assembly assigned a *fire-resistance rating* on the basis of the Supplementary Guidelines is permitted to be penetrated by openings leading into ducts within the ceiling space provided

- (a) the ducts are sheet steel, and
- (b) the amount of openings and their protection conform to the requirements of the Supplementary Guidelines.

(2) Fire stop flaps in ceiling membranes required in Sentence (1) shall conform to CAN4-S112.2-M, "Standard Method of Fire Test of Ceiling Firestop Flap Assemblies".

3.1.9.6. Plenums

(1) A ceiling assembly used as a *plenum* shall conform to Article 3.6.4.3.

3.1.10. Firewalls**3.1.10.1. Prevention of Firewall Collapse**

(1) Except as permitted by Sentence (2), the connections and supports for structural framing members that are connected to or supported on a *firewall* and have a *fire-resistance rating* less than that required for the *firewall*, shall be designed so that the collapse of the framing members during a fire will not cause the collapse of the *firewall*.

(2) Sentence (1) does not apply to a *firewall* consisting of two separate wall assemblies each tied to its respective *building* frame but not to each other, provided each wall assembly is

- (a) a *fire separation* having one half of the *fire-resistance rating* required for the *firewall* by Sentences 3.1.10.2.(1) and (2), and
- (b) designed so that the collapse of one wall assembly will not cause collapse of the other.

(3) A *firewall* is permitted to be supported on the structural frame of a *building* of *noncombustible construction* provided the supporting frame has a *fire-resistance rating* not less than that required for the *firewall*.

(4) Piping, ducts and totally enclosed *noncombustible* raceways shall be installed so that their collapse will not cause collapse of the *firewall*.

3.1.10.2. Rating of Firewalls

(1) A *firewall* which separates a *building* or *buildings* with *floor areas* containing a Group E or a Group F, Division 1 or 2 *major occupancy* shall be constructed as a *fire separation* of *noncombustible construction* having a *fire-resistance rating* not less than 4 h, except that where the upper portion of a *firewall* separates *floor areas* containing other than Group E or Group F, Division 1 or 2 *major occupancies*, the *fire-resistance rating* of the upper portion of the *firewall* is permitted to be not less than 2 h.

(2) A *firewall* which separates a *building* or *buildings* with *floor areas* containing *major occupancies* other than Group E or Group F, Division 1 or 2 shall be constructed as a *fire separation* of *noncombustible construction* having a *fire-resistance rating* not less than 2 h.

(3) Except for *closures*, the required *fire-resistance rating* of a *firewall* shall be provided by masonry or concrete.

3.1.10.3. Continuity of Firewalls

(1) A *firewall* shall extend from the ground continuously through, or adjacent to, all *storeys* of a *building* or *buildings* so separated, except that a *firewall* located above a *basement storage garage* conforming to Article 3.2.1.2. is permitted to commence at the floor assembly immediately above the *storage garage*.

(2) A *firewall* is permitted to terminate on the underside of a reinforced concrete roof slab provided

- (a) the roof slab on both sides of the *firewall* has a *fire-resistance rating* not less than
 - (i) 1 h if the *firewall* is required to have a *fire-resistance rating* not less than 2 h, or
 - (ii) 2 h if the *firewall* is required to have a *fire-resistance rating* not less than 4 h, and
- (b) there are no concealed spaces within the roof slab in that portion immediately above the *firewall*.

3.1.10.4. Parapets

(1) Except as permitted by Sentences (2) and 3.1.10.3.(2), a *firewall* shall extend above the roof surface to form a parapet not less than

- (a) 150 mm high for a *firewall* required to have a *fire-resistance rating* not less than 2 h, and
- (b) 900 mm high for a *firewall* required to have a *fire-resistance rating* not less than 4 h.

(2) A *firewall* that separates 2 *buildings* with roofs at different elevations need not extend above the upper roof surface to form a parapet, provided the difference in elevation between the roofs is more than 3 m.

3.1.10.5. Maximum Openings

(1) Openings in a *firewall* shall conform to the size limits described in Article 3.1.8.6. and the aggregate width of openings shall be not more than 25% of the entire length of the *firewall*.

3.1.10.6. Exposure Protection for Adjacent Walls

(1) The requirements of Article 3.2.3.13. shall apply to the external walls of 2 *buildings* that meet at a *firewall* at an angle less than 135°.

3.1.10.7. Combustible Projections

(1) *Combustible* material shall not extend across the end of a *firewall* but is permitted to extend across a roof above a *firewall* that is terminated in conformance with Sentence 3.1.10.3.(2).

(2) If *buildings* are separated by a *firewall*, *combustible* projections on the exterior of one *building*, including balconies, platforms, canopies, eave projections and stairs, that extend outward beyond the end of the *firewall*, shall not be permitted within 2 400 mm of *combustible* projections and window or door openings of the adjacent *building*.

3.1.11. Fire Stops in Concealed Spaces**3.1.11.1. Separation of Concealed Spaces**

(1) Concealed spaces in interior wall, ceiling and crawl spaces shall be separated from concealed spaces in exterior walls and *attic* or *roof spaces* by fire stops conforming to Article 3.1.11.7.

3.1.11.2. Fire Stopping in Wall Assemblies

(1) Except as permitted by Sentence (2), fire stops conforming to Article 3.1.11.7. shall be provided to block off concealed spaces within a wall assembly

- (a) at every floor level,
- (b) at every ceiling level where the ceiling forms part of an assembly required to have a *fire-resistance rating*, and
- (c) so that the maximum horizontal dimension is not more than 20 m and the maximum vertical dimension is not more than 3 m.

(2) Fire stops conforming to Sentence (1) are not required provided

- (a) the wall space is filled with insulation,
- (b) the exposed construction materials and any insulation within the wall space are *noncombustible*,
- (c) the exposed construction materials and any insulation within the wall space have a *flame-spread rating* not more than 25 on any exposed surface, or on any surface that would be exposed by cutting through the material in any direction, and fire stops are installed so that the vertical distance between them is not more than 10 m, or
- (d) the insulated wall assembly contains not more than one concealed air space, and the horizontal thickness of that air space is not more than 25 mm.

3.1.11.3. Fire Stopping between Nailing and Supporting Elements

(1) In a *building* required to be of *noncombustible construction*, a concealed space in which there is an exposed ceiling finish with a *flame-spread rating* more than 25, shall be provided with fire stops conforming to Article 3.1.11.7. between wood nailing elements, so that the maximum area of the concealed space is not more than 2 m².

(2) In a *building* required to be of *noncombustible construction*, fire stops conforming to Article 3.1.11.7. shall be provided in the concealed spaces created by the wood members permitted by Sentence 3.1.5.8.(2) so that the maximum area of a concealed space is not more than 10 m².

3.1.11.4. Fire Stopping between Vertical and Horizontal Spaces

(1) Fire stops conforming to Article 3.1.11.7. shall be provided

- (a) at all interconnections between concealed vertical and horizontal spaces in interior coved ceilings, drop ceilings and soffits in which the exposed construction materials within the space have a *flame-spread rating* more than 25, and
- (b) at the end of each run and at each floor level in concealed spaces between stair stringers in which the exposed construction materials within the space have a *flame-spread rating* more than 25.

3.1.11.5. Fire Stopping of Roof Spaces, Balconies and Canopies

(1) A concealed space within a ceiling or roof assembly of *combustible construction*, including an *attic or roof space*, in which sprinklers are not installed, shall be separated by construction conforming to Article 3.1.11.7. into compartments not more than

- (a) 600 m² in area with no dimension more than 60 m if the exposed construction materials within the space have a *flame-spread rating* not more than 25, and

- (b) 300 m² in area with no dimension more than 20 m if the exposed construction materials within the space have a *flame-spread rating* more than 25.

(2) A concealed space in an exterior cornice, a mansard style roof, a balcony or a *canopy* in which exposed construction materials within the space have a *flame-spread rating* more than 25, shall be separated by construction conforming to Article 3.1.11.7.

- (a) at locations where the concealed space extends across the ends of required vertical *fire separations*, and
- (b) so that the maximum dimension in the concealed space is not more than 20 m.

3.1.11.6. Fire Stopping of Crawl Spaces

(1) A crawl space which is not considered as a *basement* by Article 3.2.2.9. and in which sprinklers are not installed, shall be separated by construction conforming to Article 3.1.11.7. into compartments not more than 600 m² in area with no dimension more than 30 m.

3.1.11.7. Fire Stop Materials

(1) Except as permitted by Sentences (2) to (4), materials used to separate concealed spaces into compartments shall remain in place and prevent the passage of flames for not less than 15 min when subjected to the standard fire exposure in CAN/ULC-S101-M, "Standard Methods of Fire Endurance Tests of Building Construction and Materials".

(2) Gypsum board not less than 12.7 mm thick and sheet steel not less than 0.38 mm thick need not be tested in conformance with Sentence (1) provided all joints have continuous support.

(3) In a *building* required to be of *noncombustible construction*, wood nailing elements described in Article 3.1.5.6. need not be tested in conformance with Sentence (1).

(4) In a *building* permitted to be of *combustible construction*, in a *combustible* roof system permitted by Sentence 3.1.5.3.(2), and in a raised platform permitted by Sentence 3.1.5.8.(2), materials used to separate concealed spaces into compartments are permitted to be

- (a) solid lumber not less than 38 mm thick,
- (b) phenolic bonded plywood, waferboard, or strandboard not less than 12.5 mm thick with joints supported, or
- (c) two thicknesses of lumber, each not less than 19 mm thick with joints staggered, where the width or height of the concealed space requires more than one piece of lumber not less than 38 mm thick to block off the space.

(5) Openings through materials referred to in Sentences (1) to (4) shall be protected to maintain the integrity of the construction.

(6) Where materials referred to in Sentences (1) to (4) are penetrated by construction elements or by service equipment, fire stop materials shall be used to seal the penetration.

3.1.12. Flame-Spread Rating and Smoke Developed Classification**3.1.12.1. Determination of Ratings**

(1) Except as required by Sentence (2) and as permitted by Sentence (3), the *flame-spread rating* and smoke developed classification of a material, assembly, or structural member shall be determined on the basis of not less than three tests conducted in conformance with CAN/ULC-S102-M, "Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies".

(2) The *flame-spread rating* and smoke developed classification of a material or assembly shall be determined on the basis of not less than three tests conducted in conformance with CAN/ULC-S102.2-M, "Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials and Assemblies", if the material or assembly

- (a) is designed for use in a relatively horizontal position with only its top surface exposed to air,
- (b) cannot be tested in conformance with Sentence (1) without the use of supporting material that is not representative of the intended installation, or
- (c) is thermoplastic.

(3) A material, assembly, or structural member is permitted to be assigned a *flame-spread rating* and smoke developed classification on the basis of the Supplementary Guidelines.

3.1.13. Interior Finish**3.1.13.1. Interior Finish Description**

(1) Interior finish material shall include any material that forms part of the interior surface of a floor, wall, *partition* or ceiling, including

- (a) interior cladding of plaster, wood or tile,
- (b) surfacing of fabric, paint, plastic, veneer or wallpaper,
- (c) doors, windows and trim,
- (d) lighting elements such as light diffusers and lenses forming part of the finished surface of the ceiling, and
- (e) carpet material that overlies a floor that is not intended as the finished floor.

3.1.13.2. Flame-Spread Rating

(1) Except as otherwise required or permitted by this Subsection, the *flame-spread rating* of interior wall and ceiling finishes, including glazing and skylights, shall be not more than 150 and shall conform to Table 3.1.13.2.

Table 3.1.13.2.**Flame-Spread Ratings**

Forming Part of Sentence 3.1.13.2.(1)

| Occupancy, Location or Element | Maximum <i>Flame-Spread Rating</i> for Walls and Ceilings | |
|---|---|------------------------|
| | <i>Sprinklered</i> | <i>Not Sprinklered</i> |
| Group A, Division 1 <i>occupancies</i> , including doors, skylights, glazing and light diffusers and lenses | 150 | 75 |
| Group B <i>occupancies</i> | 150 | NA |
| <i>Exits</i> ⁽¹⁾ | 25 | 25 |
| Lobbies described in Sentence 3.4.4.2.(2) | 25 | 25 |
| Covered vehicular passageways, except for roof assemblies of <i>heavy timber construction</i> in such passageways | 25 | 25 |
| <i>Vertical service spaces</i> | 25 | 25 |
| Column 1 | 2 | 3 |

Note to Table 3.1.13.2.:

(1) See Articles 3.1.13.8. and 3.1.13.10.

(2) Except as permitted by Sentence (3), doors, other than those in Group A, Division 1 *occupancies*, need not conform to Sentence (1) provided they have a *flame-spread rating* not more than 200.

(3) Doors within a *dwelling unit* need not conform to Sentences (1) and (2).

(4) Up to 10% of the total wall area and 10% of the total ceiling area of a wall or ceiling finish that is required by Sentence (1) to have a *flame-spread rating* less than 150 is permitted to have a *flame-spread rating* not more than 150, except that up to 25% of the total wall area

of lobbies described in Sentence 3.4.4.2.(2) is permitted to have a *flame-spread rating* not more than 150.

(5) Except in the case of Group A, Division 1 *occupancies*, *combustible* doors, skylights, glazing and light diffusers and lenses shall not be considered in the calculation of wall and ceiling areas described in Sentence (4).

3.1.13.3. Bathrooms in Residential Suites

(1) The *flame-spread rating* of interior wall and ceiling finishes for a bathroom within a *suite of residential occupancy* shall be not more than 200.

3.1.13.4. Light Diffusers and Lenses

(1) The *flame-spread rating* of *combustible* light diffusers and lenses in all *occupancies* other than Group A, Division 1 is permitted to be more than the *flame-spread rating* limits required elsewhere in this Subsection, provided the light diffusers and lenses

- (a) have a *flame-spread rating* not more than 250 and a smoke developed classification not more than 600 when tested in conformance with CAN/ULC-S102.2-M, "Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials and Assemblies",
- (b) fall to the bottom of the test apparatus before igniting when tested in conformance with ULC-S102.3-M, "Standard Method of Fire Test of Light Diffusers and Lenses",
- (c) are not prevented from falling from the ceiling by construction located beneath the elements, and
- (d) are not used in a corridor that is required to be separated from the remainder of the *building* by a *fire separation* or in an *exit* shaft unless individual diffusers or lenses are not more than 1 m² in area and are not less than 1 200 mm apart.

3.1.13.5. Skylights

(1) Individual *combustible* skylights in a corridor that is required to be separated from the remainder of the *building* by a *fire separation* shall be not more than 1 m² in area and not less than 1 200 mm apart.

3.1.13.6. Corridors

(1) Except as permitted by Sentences (2) and (3), the *flame-spread rating* shall be not more than 75 for the interior wall finish of

- (a) a *public corridor*,
- (b) a corridor used by the public in
 - (i) an *assembly occupancy*, or

(ii) a *care or detention occupancy*,

- (c) a corridor serving classrooms, or
- (d) a corridor serving sleeping rooms in a *care or detention occupancy*.

(2) The *flame-spread rating* limit specified in Sentence (1) does not apply to corridors referred to in Sentence (1) provided the *flame-spread rating* is not more than

- (a) 25 on the upper half of the wall, and
- (b) 150 on the lower half of the wall.

(3) The *flame-spread rating* limits specified in Sentences (1) and (2) for corridors referred to in Sentence (1) does not apply to a corridor in which the *flame-spread rating* is not more than 150 provided the *floor area* is *sprinklered*.

(4) The *flame-spread rating* limits specified in Sentences (1), (2) and (3) apply to *occupancies* in the corridor as well as to the corridor itself.

(5) Except in a *floor area* that is *sprinklered* and as permitted in Sentence (6), the interior ceiling finish of corridors and *occupancies* referred to in Sentences (1) and (4) shall have a *flame-spread rating* not more than 25.

(6) The *flame-spread rating* limits specified in Sentence (5) do not apply to a corridor in which the *flame-spread rating* is not more than 150 provided the *floor area* is *sprinklered*.

3.1.13.7. High Buildings

(1) Except as permitted by Sentences (2) and (3), the interior wall, ceiling and floor finishes in a *building* regulated by the provisions of Subsection 3.2.6. shall conform to the *flame-spread rating* requirements in Articles 3.1.13.2. to 3.1.13.6. and to the *flame-spread rating* and smoke developed classification values in Table 3.1.13.7.

Table 3.1.13.7.**Flame-Spread Rating and Smoke Developed Classification in a High Building**

Forming Part of Sentence 3.1.13.7.(1)

| Location or Element | Maximum <i>Flame-Spread Rating</i> | | | Maximum Smoke Developed Classification | | |
|---|------------------------------------|--------------------------------|---------------|--|--------------------------------|---------------|
| | Wall Surface | Ceiling Surface ⁽¹⁾ | Floor Surface | Wall Surface | Ceiling Surface ⁽¹⁾ | Floor Surface |
| <i>Exit</i> stairways, vestibules to <i>exit</i> stairs and lobbies described in Sentence 3.4.4.2.(2) | 25 | 25 | 25 | 50 | 50 | 50 |
| Corridors not within <i>suites</i> | (2) | (2) | 300 | 100 | 50 | 500 |
| Elevator cars and vestibules | 25 | 25 | 300 | 100 | 100 | 300 |
| <i>Service spaces</i> and <i>service rooms</i> | 25 | 25 | 25 | 50 | 50 | 50 |
| Other locations and elements | (2) | (2) | No limit | 300 | 50 | No limit |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Notes to Table 3.1.13.7:

(1) See Sentence 3.1.13.4.(1) for lighting elements.

(2) Other requirements of this Part apply.

(2) Except for a building of Group B major occupancy and elevator cars, the *flame-spread rating* and smoke developed classification of interior wall, floor and ceiling finishes need not conform to the values in Table 3.1.13.7., provided the building is *sprinklered* and the sprinkler system is electrically supervised in conformance with Sentence 3.2.6.4.(1).

(3) Trim, millwork and doors in an *exit* stairway, a vestibule to an *exit* stairway, a lobby described in Sentence 3.4.4.2.(2), or a corridor not within a *suite* need not conform to the *flame-spread rating* and smoke developed classification requirements of Sentence (1) provided they have

- (a) a *flame-spread rating* not more than 150,
- (b) a smoke developed classification not more than 300, and
- (c) an aggregate area not more than 10% of the area of the wall or ceiling on which they occur.

3.1.13.8. Noncombustible Construction

- (1) In a building required to be of *noncombustible construction*
 - (a) the *flame-spread ratings* required by Subsection 3.1.5. shall apply in addition to the requirements in this Subsection, and
 - (b) the *flame-spread ratings* for *exits* in this Subsection shall also apply to any surface in the *exit* that would be exposed by cutting through the material in any direction, except that this requirement does not apply to doors, *heavy timber construction* in a *sprinklered building* and *fire-retardant treated wood*.

3.1.13.9. Underground Walkways

(1) Except for paint, the interior wall and ceiling finishes of an underground walkway shall be of *noncombustible materials*.

3.1.13.10. Exterior Exit Passageway

(1) The wall and ceiling finishes of an exterior *exit* passageway that provides the only *means of egress* from the rooms or *suites* it serves, including the soffit beneath and the *guard* on the passageway, shall have a *flame-spread rating* not more than 25, except that a *flame-spread rating* not more than 150 is permitted for up to 10% of the total wall area and for up to 10% of the total ceiling area.

3.1.14. Roof Assemblies

3.1.14.1. Fire-Retardant Treated Wood Roof Systems

(1) If a *fire-retardant treated wood* roof system is used to comply with the requirements of Subsection 3.2.2., the roof deck assembly shall meet the conditions of acceptance of CAN/ULC-S126-M, "Standard Method of Test for Fire Spread Under Roof-Deck Assemblies".

(2) Supports for the roof deck assembly referred to in Sentence (1) shall consist of

- (a) *fire-retardant treated wood*,
- (b) *heavy timber construction*,
- (c) *noncombustible construction*, or
- (d) a combination thereof.

3.1.14.2. Metal Roof Deck Assemblies

(1) Except as permitted by Sentence (2), a metal roof deck assembly shall meet the conditions of acceptance of CAN/ULC-S126-M, "Standard Method of Test for Fire Spread Under Roof-Deck Assemblies", if

- (a) it supports a *combustible* material above the deck that could propagate a fire beneath the roof deck assembly, and
- (b) the deck is used to comply with the requirements of Sentences 3.2.2.25.(2), 3.2.2.32.(2), 3.2.2.53.(2), 3.2.2.59.(2), 3.2.2.69.(2) and 3.2.2.76.(2) for *noncombustible construction*.

(2) The requirements of Sentence (1) are waived provided

- (a) the *combustible* material above the roof deck is protected by not less than 12.7 mm thick gypsum board, mechanically fastened to a supporting assembly if located beneath the roof deck, or by a thermal barrier conforming to one of Clauses 3.1.5.11.(2)(c) to (e) that is located
 - (i) on the underside of the *combustible* material, or
 - (ii) beneath the roof deck,
- (b) the building is *sprinklered*, or
- (c) the roof assembly has a *fire-resistance rating* not less than 45 min.

3.1.15. Roof Covering

3.1.15.1. Roof Covering Classification

(1) A roof covering classification shall be determined in conformance with CAN/ULC-S107-M, "Standard Methods of Fire Tests of Roof Coverings".

3.1.15.2. Roof Coverings

(1) Except as permitted by Sentence (2), every roof covering shall have a Class A, B or C classification as determined in accordance with Article 3.1.15.1.

(2) A roof covering is not required to have a Class A, B or C classification for

- (a) a tent,
- (b) an *air-supported structure*, or
- (c) a building of Group A, Division 2 occupancy not more than 2 storeys in building height and not more than 1 000 m² in building area provided the roof covering is underlaid with *noncombustible* material.

3.1.16. Occupant Load

3.1.16.1. Occupant Load Determination

(1) The *occupant load* of a floor area or part of a floor area, or of a building or part of a building not having a floor area, shall be based on

- (a) the number of seats in an *assembly occupancy* having fixed seats,
- (b) 2 persons per sleeping room or sleeping area in a *dwelling unit* or *suite*, or
- (c) the number of persons

- (i) for which the area is designed, or
- (ii) determined from Table 3.1.16.1. for *occupancies* other than those described in Clauses (a) and (b).

Table 3.1.16.1.

Occupant Load

Forming Part of Article 3.1.16.1.

| Type of Use of Building or Floor Area or Part Thereof | Area per Person, m ² |
|---|---------------------------------|
| Assembly uses | |
| space with fixed seats | See Clause (1)(a) |
| space with nonfixed seats | 0.75 |
| stages for theatrical performances | 0.75 |
| space with nonfixed seats and tables | 0.95 |
| standing space | 0.40 |
| stadia and grandstands | 0.60 |
| bowling alleys, pool and billiard rooms | 9.30 |
| classrooms | 1.85 |
| school shops and vocational rooms | 9.30 |
| reading or writing rooms or lounges | 1.85 |
| dining, alcoholic beverage and cafeteria space | 1.10 |
| laboratories in schools | 4.60 |
| exhibition halls other than those classified in Group E | 2.80 |
| Care or detention uses | |
| B-1 : detention quarters | 11.60 |
| B-2 : treatment and sleeping room areas | 10.00 |
| B-3 : sleeping room areas (See also Article 3.7.1.3.) | 10.00 |
| Residential uses | |
| dwelling units | See Clause (1)(b) |
| dormitories | 4.60 |
| Business and personal services uses | |
| personal service shops | 4.60 |
| offices | 9.30 |
| Mercantile uses | |
| basements and first storeys | 3.70 |
| second storeys having a principal entrance from a pedestrian thoroughfare or a parking area | 3.70 |
| dining, alcoholic beverage and cafeteria space | 1.10 |
| other storeys | 5.60 |
| Industrial uses | |
| manufacturing or process rooms | 4.60 |
| storage garages | 46.00 |
| storage spaces (warehouse) | 28.00 |
| aircraft hangars | 46.00 |
| Other uses | |
| cleaning and repair of goods | 4.60 |
| kitchens | 9.30 |
| storage | 46.00 |
| public corridors intended for <i>occupancies</i> in addition to pedestrian travel | 3.70 |
| Column 1 | 2 |

(2) If a floor area or part thereof has been designed for an *occupant load* other than that determined from Table 3.1.16.1., a permanent sign indicating that *occupant load* shall be posted in a conspicuous location.

(3) For the purposes of this Article, *mezzanines*, tiers and balconies shall be regarded as part of the *floor area*.

(4) If a room or group of rooms is intended for different *occupancies* at different times, the value to be used from Table 3.1.16.1. shall be the value which gives the greatest number of persons for the *occupancies* concerned.

(5) Except as provided by Sentences (6) or (7), in dining, alcoholic beverage and cafeteria spaces the *occupant load* shall be determined from Table 3.1.16.1.

(6) The *occupant load* in Sentence (6) is permitted to be the number of persons for which the space is designed.

(7) The *occupant load* in Sentence (6) shall be not more than that determined by using an area of 0.6 m² per person.

3.1.16.2. Dance Floor

(1) The *occupant load* of a room in which a dance floor is situated shall be calculated in respect of that portion of the room that is not occupied by the dance floor.

3.1.16.3. Public Pools

(1) The *occupant load* of a *public pool*, except a *wave action pool*, shall be determined by the following formula:

$$\text{occupant load} = \frac{D}{2.5} + \frac{S}{1.4}$$

where D = the water surface area in square metres of the part of the pool that is deeper than 1 350 mm; and

where S = the water surface area in square metres of the part of the pool that is 1 350 mm in depth or less.

(2) The *occupant load* of a *wave action pool* shall be determined by the following formula:

$$\text{occupant load} = \frac{D}{2.5} + \frac{S}{1.1}$$

where D = the water surface area in square metres of the part of the pool where the still water depth is greater than 1 000 mm; and

where S = the water surface area in square metres of the part of the pool where the still water depth is 1 000 mm or less.

3.1.17. Drainage and Grades

3.1.17.1. Drainage

(1) The *building* shall be located and the *building* site graded so that water will not accumulate at or near the *building* and will not adversely affect any adjacent properties.

3.1.18. Above Ground Electrical Conductors

3.1.18.1. Clearance to Buildings

(1) Where a *building* is to be *constructed* in proximity to existing above ground electrical conductors of a voltage not less than 2.5 kV and not more than 46 kV

(a) the *building* shall not be located beneath the conductors, and

(b) the horizontal distance between the *building* and the conductors shall be not less than 3 m.

(2) Where a *building* is to be *constructed* in proximity to existing above ground electrical conductors of a voltage more than 46 kV, the clearances between the *building* and the conductors shall conform to the requirements of CAN/CSA-C22.3 No.1, "Overhead Systems".

3.1.18.2. Exception

(1) Article 3.1.18.1. does not apply to *buildings* containing electrical equipment and electrical installations used exclusively in the generation, transformation or transmission of electrical power or energy intended for sale or distribution to the public.

Section 3.2. Building Fire Safety**3.2.1. General****3.2.1.1. Exceptions in Determining Building Height**

(1) A roof-top enclosure provided for elevator machinery, a stairway or a *service room* used for no purpose other than for service to the *building*, shall not be considered as a *storey* in calculating the *building height*.

(2) Space under tiers of seats in a *building* of the arena type shall not be considered as adding to the *building height* provided the space is used only for dressing rooms, concession stands and similar purposes incidental to the *major occupancy* of the *building*.

(3) Except as required in Sentence (4), (5) and (8), a *mezzanine* shall not be considered as a *storey* in calculating the *building height* provided

(a) the aggregate area of the *mezzanine* floor is not more than 40% of the area of the room or *storey* in which it is located,

(b) it is used as an open *floor area* except as permitted by Sentence 3.3.2.11.(2), and

(c) the space above the *mezzanine* floor has no visual obstructions more than 1 070 mm above the floor.

(4) Except as required by Sentence (5), a *mezzanine* shall not be considered as a *storey* in calculating *building height* and need not conform to Sentence (3) provided the aggregate area of the *mezzanine* floor is not more than 10% of the area of

(a) the *suite* in which it is located, where there is more than one *suite* in the *storey*, or

(b) the *storey* in which it is located, in all other cases.

(5) Except as permitted by Sentence (8), if one or more levels of *mezzanine* is partially or wholly superimposed above another *mezzanine* in the room or *storey*, each level additional to the first level shall be considered as a *storey* in calculating the *building height*.

(6) The floor assembly of a *mezzanine* that is required to be considered as a *storey* in determining *building height*, shall be constructed in conformance with the *fire separation* requirements of Articles 3.2.2.20. to 3.2.2.83. for floor assemblies.

(7) A *service space* in which facilities are included to permit a person to enter and to undertake maintenance and other operations pertaining to *building* services from within the *service space* need not be considered a *storey* if it conforms to Articles 3.2.5.15. and 3.3.1.23., and Sentences 3.2.4.19.(12), 3.2.7.3.(2), 3.3.1.3.(7), 3.4.2.4.(3) and 3.4.4.4.(9).

(8) *Mezzanines*, elevated walkways and platforms in Group F, Division 2 or 3 *major occupancies* need not be considered as *storeys* in calculating *building height* provided

(a) the *building* is of *noncombustible construction*,

(b) except for Clause (c), the *mezzanines*, elevated walkways and platforms are intended solely for periodic service and maintenance, and

(c) where they are intended to be occupied, no *mezzanine*, elevated walkway or platform shall have an *occupant load* more than 4 persons.

3.2.1.2. Storage Garage Considered as a Separate Building

(1) A *basement* used primarily as a *storage garage* is permitted to be considered as a separate *building* for the purposes of Subsection 3.2.2., provided the floor and roof assemblies above the *basement* and the exterior walls of the *basement* above the adjoining ground level are constructed as *fire separations* of masonry or concrete having a *fire-resistance rating* not less than 2 h, except as permitted by Sentence (2).

(2) The exterior wall of a *basement* that is required to be a *fire separation* with a *fire-resistance rating* in accordance with Sentence (1) is permitted to be penetrated by openings that are not protected by *closures* provided

(a) the *storage garage* is *sprinklered*,

(b) every opening in the exterior wall is separated from *storeys* above the opening by a projection of the floor or roof assembly above the *basement*, extending not less than

(i) 1 000 mm beyond the exterior face of the *storage garage* if the upper *storeys* are required to be of *noncombustible construction*, or

(ii) 2 000 mm beyond the exterior face of the *storage garage* if the upper *storeys* are permitted to be of *combustible construction*, or

(c) the exterior walls of any *storeys* located above the floor or roof assembly referred to in Sentence (1) are recessed behind the outer edge of the assembly by not less than

(i) 1 000 mm if the upper *storeys* are required to be of *noncombustible construction*, or

(ii) 2 000 mm if the upper *storeys* are permitted to be of *combustible construction*.

(3) The floor or roof assembly projection referred to in Clause (2)(b) shall have a *fire-resistance rating* not less than 2 h and shall have no openings within the projection.

3.2.1.3. Roof Considered as a Wall

(1) For the purposes of this Section any part of a roof that is pitched at an angle of 60° or more to the horizontal and is adjacent to a space intended for *occupancy* within a *building* shall be considered as part of an exterior wall of the *building*.

3.2.1.4. Floor Assembly over Basement

(1) Except as permitted by Sentences 3.2.2.42.(3), 3.2.2.43.(3), 3.2.2.45.(3), 3.2.2.46.(3), 3.2.2.47.(3) or 3.2.2.48.(3), a floor assembly immediately above a *basement* shall be constructed as a *fire separation* having a *fire-resistance rating* conforming to the requirements of Articles 3.2.2.20. to 3.2.2.83. for a floor assembly, but not less than 45 min.

(2) All *loadbearing* walls, columns and arches supporting a floor assembly immediately above a *basement* shall have a *fire-resistance rating* not less than that required by Sentence (1) for the floor assembly.

3.2.1.5. Fire Containment in Basements

(1) Except as permitted by Sentences (2) and 3.2.2.15.(3), in a *building* in which an automatic sprinkler system is not required to be installed by Articles 3.2.2.20. to 3.2.2.83., every *basement* shall

(a) be *sprinklered*, or

(b) be subdivided into *fire compartments* not more than 600 m² in area by a *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly immediately above the *basement*.

(2) An *open-air storey* need not conform to Sentence (1).

3.2.2. Building Size and Construction Relative to Occupancy**3.2.2.1. Application**

(1) Except as permitted by Article 3.2.2.3., a *building* shall be constructed in conformance with this Subsection to prevent fire spread and collapse caused by the effects of fire.

3.2.2.2. Special and Unusual Structures

(1) A structure which cannot be identified with the characteristics of a *building* in Articles 3.2.2.20. to 3.2.2.83. shall be protected against fire spread and collapse in conformance with good fire protection engineering practice.

3.2.2.3. Exceptions to Structural Fire Protection

(1) Fire protection is not required for

(a) steel lintels above openings not more than 2 m wide in *loadbearing* walls and not more than 3 m wide in *non-loadbearing* walls,

(b) steel lintels above openings more than 2 m wide in *loadbearing* walls and more than 3 m wide in *non-loadbearing* walls provided the lintels are supported at intervals of not more than 2 m by structural members with the required *fire-resistance rating*,

(c) the bottom flanges of shelf angles and plates that are not a part of the structural frame,

(d) steel members for framework around elevator hoistway doorways, steel for the support of elevator and dumbwaiter guides, counterweights and other similar equipment, that are entirely enclosed in a hoistway and are not a part of the structural frame of the *building*,

(e) steel members of stairways and escalators that are not a part of the structural frame of a *building*,

(f) steel members of porches, exterior balconies, exterior stairways, fire escapes, cornices, *marquees* and other similar appurtenances, provided they are outside an exterior wall of a *building*, and

(g) *loadbearing* steel or concrete members wholly or partly outside a *building* face in a *building* not more than 4 *storeys* in *building height* and classified as Group A, B, C, D or F, Division 3 *major occupancy* provided the members are

(i) not less than 1 000 mm away from any *unprotected opening* in an exterior wall, or

(ii) shielded from heat radiation in the event of a fire within the *building* by construction that will provide the same degree of protection that would be necessary if the member was located inside the *building*, with the protection extending on either side of the member a distance equal to the projection of the member from the face of the wall.

3.2.2.4. Buildings with Multiple Major Occupancies

(1) The requirements restricting fire spread and collapse for a *building* of a single *major occupancy* classification are provided in this Subsection according to its *building height* and *building area*.

(2) If a *building* contains more than one *major occupancy*, classified in more than one Group or Division, the requirements of this Subsection concerning *building* size and construction relative to *major occupancy* shall apply according to Articles 3.2.2.5. to 3.2.2.8.

3.2.2.5. Applicable Building Height and Area

(1) In determining the fire safety requirements of a *building* in relation to each of the *major occupancies* contained therein, the *building height* and *building area* of the entire *building* shall be used.

3.2.2.6. Multiple Major Occupancies

(1) Except as permitted by Articles 3.2.2.7. and 3.2.2.8., in a *building* containing more than one *major occupancy*, the requirements of this Subsection for the most restricted *major occupancy* contained shall apply to the whole *building*.

3.2.2.7. Superimposed Major Occupancies

(1) Except as permitted by Article 3.2.2.8., in a *building* in which one *major occupancy* is located entirely above another *major occupancy*, the requirements in this Subsection for each portion of the *building* containing a *major occupancy* shall apply to that portion as if the entire *building* was of that *major occupancy*.

(2) If one *major occupancy* is located above another *major occupancy*, the *fire-resistance rating* of the floor assembly between the *major occupancies* shall be determined on the basis of the requirements of this Subsection for the lower *major occupancy*.

3.2.2.8. Exceptions for Major Occupancies

(1) In a *building* in which the aggregate area of all *major occupancies* in a particular Group or Division is not more than 10% of the *floor area* of the *storey* in which they are located, these *major occupancies* need not be considered as *major occupancies* for the purposes of this Subsection, provided they are not classified as Group F, Division 1 or 2 *occupancies*.

(2) A helicopter landing area on the roof of a *building* need not be considered a *major occupancy* for purposes of Subsection 3.2.2. where such landing area is not more than 10% of the area of the roof.

3.2.2.9. Crawl Spaces

(1) For the purposes of Articles 3.2.1.4. and 3.2.1.5., a crawl space shall be considered as a *basement* if it is

(a) more than 1 800 mm high between the lowest part of the floor assembly and the ground or other surface below,

(b) used for any *occupancy*,

(c) used for the passage of *flue pipes*, or

(d) used as a *plenum* in *combustible construction*.

(2) A floor assembly immediately above a crawl space is not required to be constructed as a *fire separation* and is not required to have a *fire-resistance rating* provided the crawl space is not required to be considered as a *basement* by Sentence (1).

3.2.2.10. Streets

(1) Every *building* shall face a *street* located in conformance with the requirements of Articles 3.2.5.5. and 3.2.5.6. for access routes.

(2) For the purposes of Subsections 3.2.2. and 3.2.5. an access route conforming to Subsection 3.2.5. is permitted to be considered as a *street*.

(3) A *building* is considered to face 2 *streets* provided not less than 50% of the *building* perimeter is located within 15 m of the *street* or *streets*.

(4) A *building* is considered to face 3 *streets* provided not less than 75% of the *building* perimeter is located within 15 m of the *street* or *streets*.

(5) Enclosed spaces, tunnels, bridges and similar structures, even though used for vehicular or pedestrian traffic, are not considered as *streets* for the purpose of this Part.

3.2.2.11. Exterior Balconies

(1) An exterior balcony shall be constructed in accordance with the type of construction required by Articles 3.2.2.20. to 3.2.2.83., as applicable to the *occupancy* classification of the *building*.

3.2.2.12. Exterior Passageways

(1) An elevated exterior passageway used as part of a *means of egress* shall conform to the requirements of Articles 3.2.2.20. to 3.2.2.83. for *mezzanines*.

3.2.2.13. Occupancy on Roof

(1) A portion of a roof that supports an *occupancy* shall be constructed in conformance with the *fire separation* requirements of Articles 3.2.2.20. to 3.2.2.83. for floor assemblies.

3.2.2.14. Roof-Top Enclosures

(1) A roof-top enclosure for elevator machinery or for a *service room* shall be constructed in accordance with the type of construction required by Articles 3.2.2.20. to 3.2.2.83.

(2) A roof-top enclosure for elevator machinery or for a *service room*, not more than one *storey* high, is not required to have a *fire-resistance rating*.

(3) A roof-top enclosure for a stairway shall be constructed in accordance with the type of construction required by Articles 3.2.2.20. to 3.2.2.83.

(4) A roof-top enclosure for a stairway need not have a *fire-resistance rating* nor be constructed as a *fire separation*.

3.2.2.15. Storeys below Ground

(1) If a *building* is erected entirely below the adjoining finished ground level and does not extend more than one *storey* below that ground level, the minimum precautions against fire spread and collapse shall be the same as are required for *basements* under a building of 1 *storey* in *building height* having the same *occupancy* and *building area*.

(2) If any portion of a *building* is erected entirely below the adjoining finished ground level and extends more than one *storey* below that ground level, the following minimum precautions against fire spread and collapse shall be taken:

(a) except as permitted by Sentence (3), the *basements* shall be *sprinklered*,

(b) a floor assembly below the ground level shall be constructed as a *fire separation* with a *fire-resistance rating* not less than

(i) 3 h if the basements are intended for use as Group E or Group F, Division 1 or 2 *occupancies*, or

(ii) 2 h if the basements are not intended for use as Group E or Group F, Division 1 or 2 *occupancies*, and

(c) all *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the construction that they support.

(3) If the *first storey* of a *building* is not required to be *sprinklered*, sprinklers are not required in the *storey* immediately below the *first storey* provided the *storey* below

(a) contains only *residential occupancies*, and

(b) has at least one unobstructed access opening conforming to Sentence 3.2.5.1.(2) installed on that *storey* for each 15 m of wall length in at least one wall required by this Subsection to face a *street*.

3.2.2.16. Heavy Timber Roof Permitted

(1) Unless otherwise permitted by Articles 3.2.2.20. to 3.2.2.83., a roof assembly in a building up to 2 *storeys* in *building height* is permitted to be of *heavy timber construction* regardless of *building area* or type of construction required, provided the *building* is *sprinklered*.

(2) If Sentence (1) permits a roof assembly to be of *heavy timber construction*, structural members in the *storey* immediately below the roof assembly are permitted to be of *heavy timber construction*.

3.2.2.17. Sprinklers in Lieu of Roof Rating

(1) The requirements in Articles 3.2.2.20. to 3.2.2.83. for roof assemblies to have a *fire-resistance rating* are permitted to be waived provided

(a) the *building* is *sprinklered*,

(b) the sprinkler system in Clause (a) is electrically supervised in conformance with Sentence 3.2.4.9.(2), and

(c) the operation of the sprinkler system in Clause (a) will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.7.(4).

3.2.2.18. Automatic Sprinkler System Required

(1) If an automatic sprinkler system is required by Articles 3.2.2.20. to 3.2.2.83., the system shall conform to the requirements of Articles 3.2.4.7., 3.2.4.8., 3.2.4.9. 3.2.5.13.

3.2.2.19. Buildings Containing Impeded Egress Zones

(1) A *building* containing an *impeded egress zone* and conforming to the appropriate requirements of Articles 3.2.2.20. to 3.2.2.83. is not

required to conform to the requirements of Articles 3.2.2.36. and 3.2.2.37. for a Group B, Division 1 *major occupancy* provided

- (a) the *building* is *sprinklered*,
- (b) it is not more than 1 *storey* in *building height*,
- (c) it does not include
 - (i) a *contained use area*,
 - (ii) sleeping accommodation,
 - (iii) a *high hazard industrial occupancy*, or
 - (iv) a *mercantile occupancy*,
- (d) the *building area* is not more than 6 400 m² if the building includes a *medium hazard industrial occupancy*,
- (e) the *impeded egress zone* does not extend beyond the boundaries of the *fire compartment* in which it is located, and
- (f) the *occupant load* of the *impeded egress zone* is not more than 100.

3.2.2.20. Group A, Division 1, Any Height, Any Area, Sprinklered

(1) Except as permitted by Articles 3.2.2.21. and 3.2.2.22., a *building* classified as Group A, Division 1 shall conform to Sentence (2).

(2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

- (a) except as permitted by Sentence 3.2.2.7.(1), the *building* shall be *sprinklered*,
- (b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,
- (c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and
- (d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.21. Group A, Division 1, One Storey, Limited Area

(1) A *building* classified as Group A, Division 1 is permitted to conform to Sentence (2) provided

- (a) it is not more than 1 *storey* in *building height*,
- (b) it has less than 40% of the area of the *building* as 2 *storeys* for the purpose of
 - (i) development of productions including preparation of scenery and costumes and rehearsal of performers,
 - (ii) organization of performers, scenery and sound equipment,
 - (iii) preparation by performers for a performance,
 - (iv) managerial functions, or
 - (v) toilets, rest rooms and similar public facilities,

- (c) it has no *occupancy* above or below the auditorium other than one which serves it or is dependent on it,
- (d) it is not more than 600 m² in *building area*, and
- (e) the *occupant load* is not more than 600.

(2) The *building* referred to in Sentence (1) is permitted to be of *heavy timber construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations*,
 - (i) with a *fire-resistance rating* not less than 45 min, or
 - (ii) of *heavy timber construction*, and
- (b) *loadbearing* walls, columns and arches shall
 - (i) have a *fire-resistance rating* not less than that required for the supported assembly, or
 - (ii) be of *heavy timber construction*.

3.2.2.22. Group A, Division 1, One Storey

(1) A *building* classified as Group A, Division 1 is permitted to conform to Sentence (2) provided

- (a) it is not more than 1 *storey* in *building height*,
- (b) no part of an auditorium floor is more than 5 m above or below *grade*,
- (c) no *occupancy* is above or below the auditorium other than one which serves it or is dependent on it, and
- (d) the *occupant load* of the auditorium floor is not more than 300.

(2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
- (b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,
- (c) roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and
- (d) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
 - (i) have a *fire-resistance rating* not less than 45 min, or
 - (ii) be of *noncombustible construction*, and
- (e) *loadbearing* walls, columns and arches supporting a *fire separation* shall have a *fire-resistance rating* not less than that required for the *fire separation*.

3.2.2.23. Group A, Division 2, Any Height, Any Area, Sprinklered

(1) Except as permitted by Articles 3.2.2.24. to 3.2.2.28., a *building* classified as Group A, Division 2 shall conform to Sentence (2).

(2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

- (a) except as permitted by Sentence 3.2.2.7.(1), the *building* shall be *sprinklered*,
- (b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,
- (c) *mezzanines* shall have a *fire-resistance rating* not less 1 h, and
- (d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.24. Group A, Division 2, up to 6 Storeys, Any Area, Sprinklered

(1) A *building* classified as Group A, Division 2, that is not limited by *building area*, is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the *building* is *sprinklered*, and
- (b) it is not more than 6 *storeys* in *building height*.

(2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
- (b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and
- (c) all *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.25. Group A, Division 2, up to 2 Storeys

(1) A *building* classified as Group A, Division 2 is permitted to conform to Sentence (2) provided

- (a) it is not more than 2 *storeys* in *building height*, and
- (b) it has a *building area* not more than the value in Table 3.2.2.25.

Table 3.2.2.25.

Maximum Building Area, Group A, Division 2, up to 2 Storeys

Forming Part of Sentence 3.2.2.25.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 1 600 | 2 000 | 2 400 |
| 2 | 800 | 1 000 | 1 200 |
| Column 1 | 2 | 3 | 4 |

(2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,

- (b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less 45 min,

- (c) roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, except that in a *building* not more than 1 *storey* in *building height*, the *fire-resistance rating* is permitted to be waived provided the roof assembly is constructed as a *fire-retardant treated wood* roof system conforming to Article 3.1.14.1., and the *building area* is not more than

- (i) 800 m² if facing one *street*,
- (ii) 1 000 m² if facing 2 *streets*, or
- (iii) 1 200 m² if facing 3 *streets*, and

- (d) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

- (i) have a *fire-resistance rating* not less than 45 min, or
- (ii) be of *noncombustible construction*.

3.2.2.26. Group A, Division 2, up to 2 Storeys, Increased Area, Sprinklered

(1) A *building* classified as Group A, Division 2 is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
- (b) it is not more than 2 *storeys* in *building height*, and
- (c) it has a *building area* not more than

- (i) 4 800 m² if 1 *storey* in *building height*, or
- (ii) 2 400 m² if 2 *storeys* in *building height*.

(2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,
- (b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less 45 min, and
- (c) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

- (i) have a *fire-resistance rating* not less than 45 min, or
- (ii) be of *noncombustible construction*.

3.2.2.27. Group A, Division 2, up to 2 Storeys, Sprinklered

(1) A *building* classified as Group A, Division 2 is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
- (b) it is not more than 2 *storeys* in *building height*, and
- (c) it has a *building area* not more than

- (i) 2 400 m² if 1 storey in building height with no basement,
- (ii) 1 200 m² if 1 storey in building height, or
- (iii) 600 m² if 2 storeys in building height.

3.2.2.28. Group A, Division 2, One Storey

(1) A building classified as Group A, Division 2 is permitted to be of combustible construction or noncombustible construction used singly or in combination, provided

- (a) it is not more than 1 storey in building height, and
- (b) except as permitted by Sentence (2), it has a building area not more than
 - (i) 400 m² if facing one street,
 - (ii) 500 m² if facing 2 streets, or
 - (iii) 600 m² if facing 3 streets.

(2) In a building referred to in Sentence (1) without a basement, the building area limits of Sentence (1) are permitted to be doubled provided a fire separation with a fire-resistance rating not less than 1 h is used to separate the building into fire compartments, each one of which does not exceed the area limits of Clause 1(b).

3.2.2.29. Group A, Division 3, Any Height, Any Area

(1) Except as permitted by Articles 3.2.2.30. to 3.2.2.34., a building classified as Group A, Division 3 shall conform to Sentence (2).

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of noncombustible construction, and

- (a) except as permitted by Sentence 3.2.2.7.(1), the building shall be sprinklered if it is regulated by Subsection 3.2.6.,
- (b) floor assemblies shall be fire separations with a fire-resistance rating not less than 2 h,
- (c) mezzanines shall have a fire-resistance rating not less than 1 h,
- (d) if the building is not sprinklered, roof assemblies shall have a fire-resistance rating not less than 1 h, and
- (e) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

3.2.2.30. Group A, Division 3, up to 2 Storeys

(1) A building classified as Group A, Division 3 is permitted to conform to Sentence (2) provided

- (a) it is not more than 2 storeys in building height, and
- (b) it has a building area not more than the value in Table 3.2.2.30.

Table 3.2.2.30.

Maximum Building Area, Group A, Division 3, up to 2 Storeys

Forming Part of Sentence 3.2.2.30.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 4 000 | 5 000 | 6 000 |
| 2 | 2 000 | 2 500 | 3 000 |
| Column 1 | 2 | 3 | 4 |

(2) Except as permitted by Clauses (c) and (d), the building referred to in Sentence (1) shall be of noncombustible construction, and

- (a) floor assemblies shall be fire separations with a fire-resistance rating not less than 1 h,
- (b) mezzanines shall have a fire-resistance rating not less than 1 h,
- (c) roof assemblies shall
 - (i) have a fire-resistance rating not less than 45 min, or
 - (ii) be of heavy timber construction, and
- (d) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly, except that arches and structural members within the storey immediately below a roof assembly are permitted to be of heavy timber construction.

3.2.2.31. Group A, Division 3, up to 2 Storeys, Sprinklered

(1) A building classified as Group A, Division 3 is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building shall be sprinklered,
- (b) it is not more than 2 storeys in building height, and
- (c) it has a building area not more than
 - (i) 12 000 m² if 1 storey in building height, or
 - (ii) 6 000 m² if 2 storeys in building height.

(2) Except as permitted by Clause (c) and Article 3.2.2.16., the building referred to in Sentence (1) shall be of noncombustible construction, and

- (a) floor assemblies shall be fire separations with a fire-resistance rating not less than 1 h,
- (b) mezzanines shall have a fire-resistance rating not less than 1 h, and
- (c) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly, except that arches are permitted to be of heavy timber construction.

3.2.2.32. Group A, Division 3, One Storey, Increased Area

(1) A building classified as Group A, Division 3 is permitted to conform to Sentence (2) provided

(a) it is not more than 1 storey in building height, and

(b) it has a building area not more than

(i) 2 400 m² if facing one street,

(ii) 3 000 m² if facing 2 streets, or

(iii) 3 600 m² if facing 3 streets.

(2) The building referred to in Sentence (1) is permitted to be of combustible construction or noncombustible construction used singly or in combination, and

(a) mezzanines shall have, if of combustible construction, a fire-resistance rating not less than 45 min,

(b) roof assemblies shall have, if of combustible construction, a fire-resistance rating not less than 45 min, except that the fire-resistance rating is permitted to be waived provided the roof assembly is constructed as a fire-retardant treated wood roof system conforming to Article 3.1.14.1., and the building area is not more than

(i) 1 200 m² if facing one street,

(ii) 1 500 m² if facing 2 streets, or

(iii) 1 800 m² if facing 3 streets, and

(c) loadbearing walls, columns and arches supporting an assembly required to have a fire-resistance rating shall

(i) have a fire-resistance rating not less than 45 min, or

(ii) be of noncombustible construction.

3.2.2.33. Group A, Division 3, One Storey, Sprinklered

(1) A building classified as Group A, Division 3 is permitted to be of combustible construction or noncombustible construction used singly or in combination, provided

(a) except as permitted by Sentence 3.2.2.7.(1), the building is sprinklered,

(b) it is not more than 1 storey in building height, and

(c) it has a building area not more than 7 200 m².

3.2.2.34. Group A, Division 3, One Storey

(1) A building classified as Group A, Division 3 is permitted to be of combustible construction or noncombustible construction used singly or in combination, provided

(a) it is not more than 1 storey in building height, and

(b) it has a building area not more than

(i) 1 000 m² if facing one street,

(ii) 1 250 m² if facing 2 streets, or

(iii) 1 500 m² if facing 3 streets.

3.2.2.35. Group A, Division 4

(1) Except as permitted by Sentences (2) and (3), a building classified as Group A, Division 4 shall be of noncombustible construction.

(2) Roof assemblies and supporting arches and columns are permitted to be of heavy timber construction.

(3) A building classified as Group A, Division 4 is permitted to be of combustible construction provided

(a) the occupant load is less than 1 500, and

(b) the building has a limiting distance not less than 6 m.

(4) Sprinklers shall be installed in all spaces below tiers of seats in a building classified as Group A, Division 4 if those spaces are used for occupancy.

3.2.2.36. Group B, Division 1, Any Height, Any Area, Sprinklered

(1) Except as permitted by Article 3.2.2.37., a building classified as Group B, Division 1 shall conform to Sentence (2).

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of noncombustible construction, and

(a) except as permitted by Sentence 3.2.2.7.(1), the building shall be sprinklered,

(b) floor assemblies shall be fire separations with a fire-resistance rating not less than 2 h,

(c) mezzanines shall have a fire-resistance rating not less than 1 h, and

(d) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

3.2.2.37. Group B, Division 1, up to 3 Storeys, Sprinklered

(1) A building classified as Group B, Division 1 is permitted to conform to Sentence (2) provided

(a) except as permitted by Sentence 3.2.2.7.(1) the building is sprinklered,

(b) it is not more than 3 storeys in building height, and

(c) it has a building area

(i) that is not limited if the building is not more than 1 storey in building height,

(ii) not more than 12 000 m² if 2 storeys in building height, or

(iii) not more than 8 000 m² if 3 storeys in building height.

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of noncombustible construction, and

(a) floor assemblies shall be fire separations with a fire-resistance rating not less than 1 h,

(b) mezzanines shall have a fire-resistance rating not less than 1 h, and

(c) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

3.2.2.38. Group B, Division 2 or Division 3, Any Height, Any Area, Sprinklered

(1) Except as permitted by Articles 3.2.2.39. to 3.2.2.41., a building classified as Group B, Division 2 or Division 3 shall conform to Sentence (2).

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of *noncombustible construction*, and

- (a) except as permitted by Sentence 3.2.2.7.(1), the building shall be *sprinklered*,
- (b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,
- (c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and
- (d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.39. Group B, Division 2 or Division 3, up to 3 Storeys, Sprinklered

(1) A building classified as Group B, Division 2 or Division 3 is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is *sprinklered*,
- (b) it is not more than 3 storeys in building height, and
- (c) it has a building area
 - (i) that is not limited if the building is not more than 1 storey in building height,
 - (ii) not more than 12 000 m² if 2 storeys in building height, or
 - (iii) not more than 8 000 m² if 3 storeys in building height.

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of *noncombustible construction*, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
- (b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and
- (c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.40. Group B, Division 2 or Division 3, up to 2 Storeys, Sprinklered

(1) A building classified as Group B, Division 2 or Division 3 is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is *sprinklered*,
- (b) it is not more than 2 storeys in building height, and
- (c) it has a building area not more than

(i) 2 400 m² if 1 storey in building height, or

(ii) 1 600 m² if 2 storeys in building height.

(2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
- (b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and
- (c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.41. Group B, Division 2 or Division 3, One Storey, Sprinklered

(1) A building classified as Group B, Division 2 or Division 3 is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is *sprinklered*,
- (b) it is not more than 1 storey in building height, and
- (c) it has a building area not more than 500 m².

3.2.2.42. Group C, Any Height, Any Area

(1) Except as permitted by Articles 3.2.2.43. to 3.2.2.48., a building classified as Group C shall conform to Sentence (2).

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of *noncombustible construction*, and

- (a) Reserved
- (b) except as permitted by Sentence (3), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,
- (c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,
- (d) if the building is not *sprinklered*, roof assemblies shall have a *fire-resistance rating* not less than 1 h, and
- (e) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(3) In a building that contains *dwelling units* that have more than 1 storey, subject to the requirements of Sentence 3.3.4.2.(2), the floor assemblies, including floors over basements, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

3.2.2.43. Group C, up to 6 Storeys

(1) A building classified as Group C is permitted to conform to Sentence (2) provided

- (a) it is not more than 6 storeys in building height, and
- (b) it has a building area not more than the value in Table 3.2.2.43.A. or Table 3.2.2.43.B.

Table 3.2.2.43.A.

Maximum Building Area, Group C, up to 6 Storeys

Forming Part of Sentence 3.2.2.43.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | unlimited | unlimited | unlimited |
| 2 | 6 000 | unlimited | unlimited |
| 3 | 4 000 | 5 000 | 6 000 |
| 4 | 3 000 | 3 750 | 4 500 |
| 5 | 2 400 | 3 000 | 3 600 |
| 6 | 2 000 | 2 500 | 3 000 |
| Column 1 | 2 | 3 | 4 |

Table 3.2.2.43.B.

Maximum Building Area, Group C, up to 6 Storeys, Sprinklered

Forming Part of Sentence 3.2.2.43.(1)

| No. of Storeys | Maximum Area, m ² |
|----------------|------------------------------|
| 1 | unlimited |
| 2 | unlimited |
| 3 | 12 000 |
| 4 | 9 000 |
| 5 | 7 200 |
| 6 | 6 000 |
| Column 1 | 2 |

(2) The building referred to in Sentence (1) shall be of *noncombustible construction*, and

- (a) except as permitted by Sentence (3), floor assemblies shall be *fire separations* with a *fire-resistance rating* of not less than 1 h,
- (b) *mezzanines* shall have a *fire-resistance rating* of not less than 1 h,
- (c) if the building is not *sprinklered*, roof assemblies shall have a *fire-resistance rating* not less than 1 h, and
- (d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(3) In a building that contains *dwelling units* that have more than 1 storey, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

3.2.2.44. Reserved

3.2.2.45. Group C, up to 4 Storeys, Sprinklered

(1) A building classified as Group C is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is *sprinklered*,

(b) it is not more than 4 storeys in building height, and

(c) it has a building area not more than

(i) 7 200 m² if 1 storey in building height,

(ii) 3 600 m² if 2 storeys in building height,

(iii) 2 400 m² if 3 storeys in building height, or

(iv) 1 800 m² if 4 storeys in building height.

(2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) except as permitted by Sentences (3) and (4), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
- (b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and
- (c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(3) In a building that contains *dwelling units* that have more than 1 storey, subject to the requirements of Sentence 3.3.4.2.(2), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

(4) In a building in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

3.2.2.46. Group C, up to 3 Storeys, Increased Area

(1) A building classified as Group C is permitted to conform to Sentence (2) provided

- (a) it is not more than 3 storeys in building height, and
- (b) it has a building area not more than the value in Table 3.2.2.46.

Table 3.2.2.46.

Maximum Building Area, Group C, up to 3 Storeys, Increased Area

Forming Part of Sentence 3.2.2.46.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 2 400 | 3 000 | 3 600 |
| 2 | 1 200 | 1 500 | 1 800 |
| 3 | 800 | 1 000 | 1 200 |
| Column 1 | 2 | 3 | 4 |

(2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) except as permitted by Sentences (3) and (4), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

- (b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,
- (c) roof assemblies shall have a *fire-resistance rating* not less than 1 h, and
- (d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(3) In a *building* that contains *dwelling units* that have more than 1 storey, subject to the requirements of Sentence 3.3.4.2.(2), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

(4) In a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

3.2.2.47. Group C, up to 3 Storeys

(1) A *building* classified as Group C is permitted to conform to Sentence (2) provided

- (a) it is not more than 3 storeys in *building height*, and
- (b) it has a *building area* not more than the value in Table 3.2.2.47.

Table 3.2.2.47.

Maximum Building Area, Group C, up to 3 Storeys

Forming Part of Sentence 3.2.2.47.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 1 800 | 2 250 | 2 700 |
| 2 | 900 | 1 125 | 1 350 |
| 3 | 600 | 750 | 900 |
| Column 1 | 2 | 3 | 4 |

(2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) except as permitted by Sentences (3) and (4), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
- (b) *mezzanines* shall have, if of *combustible construction* a *fire-resistance rating* not less than 45 min, and
- (c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(3) In a *building* that contains *dwelling units* that have more than 1 storey, subject to the requirements of Sentence 3.3.4.2.(2), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 45 min but need not be constructed as *fire separations*.

(4) In a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

3.2.2.48. Group C, up to 3 Storeys, Sprinklered

(1) A *building* classified as Group C is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
- (b) it is not more than 3 storeys in *building height*, and
- (c) it has a *building area* not more than
 - (i) 5 400 m² if 1 storey in *building height*,
 - (ii) 2 700 m² if 2 storeys in *building height*, or
 - (iii) 1 800 m² if 3 storeys in *building height*.

(2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) except as permitted by Sentences (3) and (4), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
- (b) *mezzanines* shall have, if of *combustible construction* a *fire-resistance rating* not less than 45 min, and
- (c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(3) In a *building* that contains *dwelling units* that have more than 1 storey, subject to the requirements of Sentence 3.3.4.2.(2), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 45 min but need not be constructed as *fire separations*.

(4) In a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

3.2.2.49. Group D, Any Height, Any Area

(1) Except as permitted by Articles 3.2.2.50. to 3.2.2.56., a *building* classified as Group D shall conform to Sentence (2).

(2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

- (a) except as permitted by Sentence 3.2.2.7.(1), the *building* shall be *sprinklered* if it is regulated by Subsection 3.2.6.,
- (b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,
- (c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,
- (d) if the *building* is not *sprinklered*, roof assemblies shall have a *fire-resistance rating* not less than 1 h, except that in a *building* not more than 1 storey in *building height* this requirement is waived, and
- (e) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.50. Group D, up to 6 Storeys

(1) A *building* classified as Group D is permitted to conform to Sentence (2) provided

- (a) it is not more than 6 storeys in building height, and
- (b) it has a building area not more than the value in Table 3.2.2.50.

Table 3.2.2.50.

Maximum Building Area, Group D, up to 6 Storeys

Forming Part of Sentence 3.2.2.50.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | not limited | not limited | not limited |
| 2 | 7 200 | not limited | not limited |
| 3 | 4 800 | 6 000 | 7 200 |
| 4 | 3 600 | 4 500 | 5 400 |
| 5 | 2 800 | 3 600 | 4 320 |
| 6 | 2 400 | 3 000 | 3 600 |
| Column 1 | 2 | 3 | 4 |

(2) The building referred to in Sentence (1) shall be of non-combustible construction, and

- (a) floor assemblies shall be fire separations with a fire-resistance rating not less than 1 h,
- (b) mezzanines shall have a fire-resistance rating not less than 1 h,
- (c) roof assemblies shall have a fire-resistance rating not less than 1 h, except that in a building not more than 1 storey in building height this requirement is waived, and
- (d) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

3.2.2.51. Group D, up to 6 Storeys, Sprinklered

(1) A building classified as Group D is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is sprinklered,
- (b) it is not more than 6 storeys in building height, and
- (c) it has a building area
 - (i) that is not limited if the building is not more than 2 storeys in building height,
 - (ii) not more than 14 400 m² if 3 storeys in building height,
 - (iii) not more than 10 800 m² if 4 storeys in building height,
 - (iv) not more than 8 640 m² if 5 storeys in building height, or
 - (v) not more than 7 200 m² if 6 storeys in building height.

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of noncombustible construction, and

- (a) floor assemblies shall be fire separations with a fire-resistance rating not less than 1 h,

- (b) mezzanines shall have a fire-resistance rating not less than 1 h, and
- (c) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

3.2.2.52. Group D, up to 4 Storeys, Sprinklered

(1) A building classified as Group D is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is sprinklered,
- (b) it is not more than 4 storeys in building height, and
- (c) it has a building area not more than 3 600 m².

(2) The building referred to in Sentence (1) is permitted to be of combustible construction or noncombustible construction used singly or in combination, and

- (a) floor assemblies shall be fire separations with a fire-resistance rating not less than 1 h,
- (b) mezzanines shall have a fire-resistance rating not less than 1 h, and
- (c) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

3.2.2.53. Group D, up to 3 Storeys

(1) A building classified as Group D is permitted to conform to Sentence (2) provided

- (a) it is not more than 3 storeys in building height, and
- (b) it has a building area not more than the value in Table 3.2.2.53.

Table 3.2.2.53.

Maximum Building Area, Group D, up to 3 Storeys

Forming Part of Sentence 3.2.2.53.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 4 800 | 6 000 | 7 200 |
| 2 | 2 400 | 3 000 | 3 600 |
| 3 | 1 600 | 2 000 | 2 400 |
| Column 1 | 2 | 3 | 4 |

(2) The building referred to in Sentence (1) is permitted to be of combustible construction or noncombustible construction used singly or in combination, and

- (a) floor assemblies shall be fire separations and, if of combustible construction, shall have a fire-resistance rating not less than 45 min,
- (b) mezzanines shall have, if of combustible construction, a fire-resistance rating not less than 45 min,

- (c) roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, except that in a building not more than 1 storey in building height, the *fire-resistance rating* is permitted to be waived provided the roof assembly is constructed as a *fire-retardant treated wood roof system* conforming to Article 3.1.14.1., and the building area is not more than

- (i) 2 400 m² if facing one street,
- (ii) 3 000 m² if facing 2 streets, or
- (iii) 3 600 m² if facing 3 streets, and

- (d) loadbearing walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

- (i) have a *fire-resistance rating* not less than 45 min, or
- (ii) be of *noncombustible construction*.

3.2.2.54. Group D, up to 3 Storeys, Sprinklered

- (1) A building classified as Group D is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is sprinklered,
- (b) it is not more than 3 storeys in building height, and
- (c) it has a building area not more than
 - (i) 14 400 m² if 1 storey in building height,
 - (ii) 7 200 m² if 2 storeys in building height, or
 - (iii) 4 800 m² if 3 storeys in building height.

- (2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,
- (b) mezzanines shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and
- (c) loadbearing walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
 - (i) have a *fire-resistance rating* not less than 45 min, or
 - (ii) be of *noncombustible construction*.

3.2.2.55. Group D, up to 2 Storeys

- (1) A building classified as Group D is permitted to conform to Sentence (2) provided

- (a) it is not more than 2 storeys in building height, and
- (b) it has a building area not more than the value in Table 3.2.2.55.

Table 3.2.2.55.

Maximum Building Area, Group D, up to 2 Storeys

Forming Part of Sentence 3.2.2.55.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 1 000 | 1 250 | 1 500 |
| 2 | 800 | 1 000 | 1 200 |
| Column 1 | 2 | 3 | 4 |

- (2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min, and
- (b) loadbearing walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
 - (i) have a *fire-resistance rating* not less than 45 min, or
 - (ii) be of *noncombustible construction*.

3.2.2.56. Group D, up to 2 Storeys, Sprinklered

- (1) A building classified as Group D is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is sprinklered,
- (b) it is not more than 2 storeys in building height, and
- (c) it has a building area not more than
 - (i) 3 000 m² if 1 storey in building height, or
 - (ii) 2 400 m² if 2 storeys in building height.

- (2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min, and
- (b) loadbearing walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
 - (i) have a *fire-resistance rating* not less than 45 min, or
 - (ii) be of *noncombustible construction*.

3.2.2.57. Group E, Any Height, Any Area, Sprinklered

- (1) Except as permitted by Articles 3.2.2.58. to 3.2.2.62., a building classified as Group E shall conform to Sentence (2).

- (2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of *noncombustible construction*, and

- (a) except as permitted by Sentence 3.2.2.7.(1), the building shall be sprinklered,

- (b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,
- (c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and
- (d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.58. Group E, up to 4 Storeys, Sprinklered

(1) A building classified as Group E is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is *sprinklered*,
- (b) it is not more than 4 storeys in building height, and
- (c) it has a building area not more than 1 800 m².

(2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
- (b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and
- (c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.59. Group E, up to 3 Storeys

(1) A building classified as Group E is permitted to conform to Sentence (2) provided

- (a) it is not more than 3 storeys in building height, and
- (b) it has a building area not more than the value in Table 3.2.2.59.

Table 3.2.2.59.

Maximum Building Area, Group E, up to 3 Storeys

Forming Part of Sentence 3.2.2.59.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 1 500 | 1 500 | 1 500 |
| 2 | 1 200 | 1 500 | 1 500 |
| 3 | 800 | 1 000 | 1 500 |
| Column 1 | 2 | 3 | 4 |

(2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,

- (b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,

- (c) roof assemblies shall have a *fire-resistance rating* not less than 45 min, except that in a building not more than 1 storey in building height, the *fire-resistance rating* is permitted to be waived provided the roof assembly is of *noncombustible construction* or is constructed as a *fire-retardant treated wood* roof system conforming to Article 3.1.14.1.,

- (d) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

- (i) have a *fire-resistance rating* not less than 45 min, or
- (ii) be of *noncombustible construction*, and

- (e) *loadbearing* walls, columns and arches supporting a *fire separation* shall have a *fire-resistance rating* not less than that required for the *fire separation*.

3.2.2.60. Group E, up to 3 Storeys, Sprinklered

(1) A building classified as Group E is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is *sprinklered*,
- (b) it is not more than 3 storeys in building height, and
- (c) it has a building area not more than
 - (i) 7 200 m² if 1 storey in building height,
 - (ii) 3 600 m² if 2 storeys in building height, or
 - (iii) 2 400 m² if 3 storeys in building height.

(2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
- (b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,
- (c) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
 - (i) have a *fire-resistance rating* not less than 45 min, or
 - (ii) be of *noncombustible construction*, and
- (d) *loadbearing* walls, columns and arches supporting a *fire separation* shall have a *fire-resistance rating* not less than that required for the *fire separation*.

3.2.2.61. Group E, up to 2 Storeys

(1) A building classified as Group E is permitted to conform to Sentence (2) provided

- (a) it is not more than 2 storeys in building height, and
- (b) it has a building area not more than the value in Table 3.2.2.61.

Table 3.2.2.61.

Maximum Building Area, Group E, up to 2 Storeys

Forming Part of Sentence 3.2.2.61.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 1 000 | 1 250 | 1 500 |
| 2 | 600 | 750 | 900 |
| Column 1 | 2 | 3 | 4 |

(2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min, and
- (b) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.62. Group E, up to 2 Storeys, Sprinklered

(1) A building classified as Group E is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is *sprinklered*,
- (b) it is not more than 2 storeys in building height, and
- (c) it has a building area not more than

- (i) 3 000 m² if 1 storey in building height, or
- (ii) 1 800 m² if 2 storeys in building height.

(2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min, and
- (b) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.63. Group F, Division 1, up to 4 Storeys, Sprinklered

(1) Except as permitted by Articles 3.2.2.64. to 3.2.2.66., a building classified as Group F, Division 1 shall conform to Sentence (2) provided

- (a) it is not more than 4 storeys in building height, and
- (b) it has a building area not more than
 - (i) 9 000 m² if 1 storey in building height,
 - (ii) 4 500 m² if 2 storeys in building height,
 - (iii) 3 000 m² if 3 storeys in building height, or
 - (iv) 2 250 m² if 4 storeys in building height.

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of *noncombustible construction*, and

- (a) except as permitted by Sentence 3.2.2.7.(1), the building shall be *sprinklered*,
- (b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,
- (c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

(d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.64. Group F, Division 1, up to 3 Storeys, Sprinklered

(1) A building classified as Group F, Division 1 is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is *sprinklered*,
- (b) it is not more than 3 storeys in building height, and
- (c) it has a building area not more than
 - (i) 3 600 m² if 1 storey in building height,
 - (ii) 1 800 m² if 2 storeys in building height, or
 - (iii) 1 200 m² if 3 storeys in building height.

(2) The building referred to in Sentence (1) is permitted to be of *heavy timber construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
- (b) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.65. Group F, Division 1, up to 2 Storeys, Sprinklered

(1) A building classified as Group F, Division 1 is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is *sprinklered*,
- (b) it is not more than 2 storeys in building height, and
- (c) it has a building area not more than
 - (i) 2 400 m² if 1 storey in building height, or
 - (ii) 1 200 m² if 2 storeys in building height.

(2) The building referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,
- (b) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
 - (i) have a *fire-resistance rating* not less than 45 min, or
 - (ii) be of *noncombustible construction*.

3.2.2.66. Group F, Division 1, One Storey

(1) A building classified as Group F, Division 1 is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination provided

(a) it is not more than 1 storey in building height, and

(b) it has a building area not more than 800 m².

Table 3.2.2.68.B.

**Maximum Building Area, Group F, Division 2,
up to 6 Storeys, Sprinklered**

Forming Part of Sentence 3.2.2.68.(1)

| No. of Storeys | Maximum Area, m ² |
|----------------|------------------------------|
| 1 | 27 000 |
| 2 | 13 500 |
| 3 | 9 000 |
| 4 | 6 750 |
| 5 | 5 400 |
| 6 | 4 500 |
| Column 1 | 2 |

3.2.2.67. Group F, Division 2, Any Height, Any Area, Sprinklered

(1) Except as permitted by Articles 3.2.2.68. to 3.2.2.72., a building classified as Group F, Division 2 shall conform to Sentence (2).

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of *noncombustible construction*, and

(a) except as permitted by Sentence 3.2.2.7.(1), the building shall be *sprinklered*,

(b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

(c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

(d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of *noncombustible construction*, and

(a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

(b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,

(c) if the building is not *sprinklered*, roof assemblies shall have a *fire-resistance rating* not less than 1 h, and

(d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.68. Group F, Division 2, up to 6 Storeys

(1) A building classified as Group F, Division 2 is permitted to conform to Sentence (2) provided

(a) it is not more than 6 storeys in building height, and

(b) it has a building area not more than the value in Table 3.2.2.68.A. or Table 3.2.2.68.B.

Table 3.2.2.68.A.

Maximum Building Area, Group F, Division 2, up to 6 Storeys

Forming Part of Sentence 3.2.2.68.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 9 000 | 11 250 | 13 500 |
| 2 | 4 500 | 5 625 | 6 750 |
| 3 | 3 000 | 3 750 | 4 500 |
| 4 | 2 250 | 2 810 | 3 375 |
| 5 | 1 800 | 2 250 | 2 700 |
| 6 | 1 500 | 1 875 | 2 250 |
| Column 1 | 2 | 3 | 4 |

3.2.2.69. Group F, Division 2, up to 4 Storeys, Increased Area

(1) A building classified as Group F, Division 2 is permitted to conform to Sentence (2) provided

(a) it is not more than 4 storeys in building height, and

(b) it has a building area not more than the value in Table 3.2.2.69.A. or Table 3.2.2.69.B.

Table 3.2.2.69.A.

**Maximum Building Area, Group F, Division 2,
up to 4 Storeys, Increased Area**

Forming Part of Sentence 3.2.2.69.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 6 000 | 7 500 | 9 000 |
| 2 | 3 000 | 3 750 | 4 500 |
| 3 | 2 000 | 2 500 | 3 000 |
| 4 | 1 500 | 1 875 | 2 250 |
| Column 1 | 2 | 3 | 4 |

Table 3.2.2.69.B.

**Maximum Building Area, Group F, Division 2,
up to 4 Storeys, Increased Area, Sprinklered**

Forming Part of Sentence 3.2.2.69.(1)

| No. of Storeys | Maximum Area, m ² |
|----------------|------------------------------|
| 1 | 18 000 |
| 2 | 9 000 |
| 3 | 6 000 |
| 4 | 4 500 |
| Column 1 | 2 |

(2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
- (b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,
- (c) if the *building* is not *sprinklered*, roof assemblies shall have a *fire-resistance rating* not less than 1 h, and
- (d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.70. Group F, Division 2, up to 4 Storeys

(1) A *building* classified as Group F, Division 2 is permitted to conform to Sentence (2) provided

- (a) it is not more than 4 *storeys* in *building height*, and
- (b) it has a *building area* not more than the value in Table 3.2.2.70.A. or Table 3.2.2.70.B.

Table 3.2.2.70.A.

Maximum Building Area, Group F, Division 2, up to 4 Storeys

Forming Part of Sentence 3.2.2.70.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 3 200 | 4 000 | 4 800 |
| 2 | 1 600 | 2 000 | 2 400 |
| 3 | 1 070 | 1 340 | 1 600 |
| 4 | 800 | 1 000 | 1 200 |
| Column 1 | 2 | 3 | 4 |

Table 3.2.2.70.B.

Maximum Building Area, Group F, Division 2, up to 4 Storeys Increased Area, Sprinklered

Forming Part of Sentence 3.2.2.70.(1)

| No. of Storeys | Maximum Area, m ² |
|----------------|------------------------------|
| 1 | 9 600 |
| 2 | 4 800 |
| 3 | 3 200 |
| 4 | 2 400 |
| Column 1 | 2 |

(2) The *building* referred to in Sentence (1) shall be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
- (b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,

(c) if the *building* is not *sprinklered*, roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, except that in *buildings* not more than 1 *storey* in *building height*, the *fire-resistance rating* is permitted to be waived provided the roof assembly is constructed as a *fire-retardant treated wood roof system* conforming to Article 3.1.14.1., and the *building area* is not more than

- (i) 1 600 m² if facing 1 *street*,
- (ii) 2 000 m² if facing 2 *streets*, or
- (iii) 2 400 m² if facing 3 *streets*,

(d) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

- (i) have a *fire-resistance rating* not less than 45 min, or
- (ii) be of *noncombustible construction*, and

(e) *loadbearing* walls, columns and arches supporting a *fire separation* shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.71. Group F, Division 2, up to 2 Storeys

(1) A *building* classified as Group F, Division 2 is permitted to conform to Sentence (2) provided

- (a) it is not more than 2 *storeys* in *building height*, and
- (b) it has a *building area* not more than the value in Table 3.2.2.71.

Table 3.2.2.71.

Maximum Building Area, Group F, Division 2, up to 2 Storeys

Forming Part of Sentence 3.2.2.71.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 1 000 | 1 250 | 1 500 |
| 2 | 600 | 750 | 900 |
| Column 1 | 2 | 3 | 4 |

(2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min, and
- (b) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
 - (i) have a *fire-resistance rating* not less than 45 min, or
 - (ii) be of *noncombustible construction*.

3.2.2.72. Group F, Division 2, up to 2 Storeys, Sprinklered

(1) A *building* classified as Group F, Division 2 is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the *building* is *sprinklered*,

(b) it is not more than 2 storeys in building height, and

(c) it has a building area not more than

(i) 4 500 m² if 1 storey in building height, or

(ii) 1 800 m² if 2 storeys in building height.

(2) The building referred to in Sentence (1) is permitted to be of combustible construction or noncombustible construction used singly or in combination, and

(a) floor assemblies shall be fire separations and, if of combustible construction, shall have a fire-resistance rating not less than 45 min, and

(b) loadbearing walls, columns and arches supporting an assembly required to have a fire-resistance rating shall

(i) have a fire-resistance rating not less than 45 min, or

(ii) be of noncombustible construction.

3.2.2.73. Group F, Division 3, Any Height, Any Area

(1) Except as permitted by Articles 3.2.2.74. to 3.2.2.83., a building classified as Group F, Division 3 shall conform to Sentence (2).

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of noncombustible construction, and

(a) except as permitted by Sentence 3.2.2.7.(1), the building shall be sprinklered if it is regulated by Subsection 3.2.6.,

(b) floor assemblies shall be fire separations with a fire-resistance rating not less than 2 h, except that floor assemblies are permitted to be fire separations with a fire-resistance rating not less than 1 h in a storage garage with all storeys constructed as open-air storeys,

(c) mezzanines shall have a fire-resistance rating not less than 1 h,

(d) if the building is not sprinklered, roof assemblies shall have a fire-resistance rating not less than 1 h, and

(e) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

3.2.2.74. Group F, Division 3, up to 6 Storeys

(1) A building classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

(a) it is not more than 6 storeys in building height, and

(b) it has a building area not more than the value in Table 3.2.2.74.

Table 3.2.2.74.

Maximum Building Area, Group F, Division 3, up to 6 Storeys

Forming Part of Sentence 3.2.2.74.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | not limited | not limited | not limited |
| 2 | 7 200 | 9 000 | 10 800 |
| 3 | 4 800 | 6 000 | 7 200 |
| 4 | 3 600 | 4 500 | 5 400 |
| 5 | 2 880 | 3 600 | 4 320 |
| 6 | 2 400 | 3 000 | 3 600 |
| Column 1 | 2 | 3 | 4 |

(2) The building referred to in Sentence (1) shall be of noncombustible construction, and

(a) floor assemblies shall be fire separations with a fire-resistance rating not less than 1 h,

(b) mezzanines shall have a fire-resistance rating not less than 1 h,

(c) roof assemblies shall have a fire-resistance rating not less than 1 h, and

(d) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

3.2.2.75. Group F, Division 3, up to 6 Storeys, Sprinklered

(1) A building classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

(a) except as permitted by Sentence 3.2.2.7.(1), the building is sprinklered,

(b) it is not more than 6 storeys in building height, and

(c) it has a building area

(i) that is not limited if the building is not more than 1 storey in building height,

(ii) not more than 21 600 m² if 2 storeys in building height,

(iii) not more than 14 400 m² if 3 storeys in building height,

(iv) not more than 10 800 m² if 4 storeys in building height,

(v) not more than 8 640 m² if 5 storeys in building height, or

(vi) not more than 7 200 m² if 6 storeys in building height.

(2) Except as permitted by Article 3.2.2.16., the building referred to in Sentence (1) shall be of noncombustible construction, and

(a) floor assemblies shall be fire separations with a fire-resistance rating not less than 1 h,

(b) mezzanines shall have a fire-resistance rating not less than 1 h, and

(c) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

3.2.2.76. Group F, Division 3, up to 4 Storeys

(1) A building classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

- (a) it is not more than 4 storeys in building height, and
- (b) it has a building area not more than the value in Table 3.2.2.76.

Table 3.2.2.76.**Maximum Building Area, Group F, Division 3, up to 4 Storeys**

Forming Part of Sentence 3.2.2.76.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 4 800 | 6 000 | 7 200 |
| 2 | 2 400 | 3 000 | 3 600 |
| 3 | 1 600 | 2 000 | 2 400 |
| 4 | 1 200 | 1 500 | 1 800 |
| Column 1 | 2 | 3 | 4 |

(2) The building referred to in Sentence (1) is permitted to be of combustible construction or noncombustible construction used singly or in combination, and

- (a) floor assemblies shall be fire separations and, if of combustible construction, shall have a fire-resistance rating not less than 45 min,
- (b) mezzanines shall have, if of combustible construction, a fire-resistance rating not less than 45 min,
- (c) roof assemblies shall have, if of combustible construction, a fire-resistance rating not less than 45 min, except that in a building not more than 1 storey in building height, the fire-resistance rating is permitted to be waived provided the roof assembly is constructed as a fire-retardant treated wood roof system conforming to Article 3.1.14.1., and the building area is not more than
 - (i) 2 400 m² if facing 1 street,
 - (ii) 3 000 m² if facing 2 streets, or
 - (iii) 3 600 m² if facing 3 streets, and
- (d) loadbearing walls, columns and arches supporting an assembly required to have a fire-resistance rating shall
 - (i) have a fire-resistance rating not less than 45 min, or
 - (ii) be of noncombustible construction.

3.2.2.77. Group F, Division 3, up to 4 Storeys, Sprinklered

(1) A building classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the building is sprinklered,
- (b) it is not more than 4 storeys in building height, and

(c) it has a building area not more than

- (i) 14 400 m² if 1 storey in building height,
- (ii) 7 200 m² if 2 storeys in building height,
- (iii) 4 800 m² if 3 storeys in building height, or
- (iv) 3 600 m² if 4 storeys in building height.

(2) The building referred to in Sentence (1) is permitted to be of combustible construction or noncombustible construction used singly or in combination, and

- (a) floor assemblies shall be fire separations and, if of combustible construction, shall have a fire-resistance rating not less than 45 min,
- (b) mezzanines shall have, if of combustible construction, a fire-resistance rating not less than 45 min, and
- (c) loadbearing walls, columns and arches supporting an assembly required to have a fire-resistance rating shall
 - (i) have a fire-resistance rating not less than 45 min, or
 - (ii) be of noncombustible construction.

3.2.2.78. Group F, Division 3, up to 2 Storeys

(1) A building classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

- (a) it is not more than 2 storeys in building height, and
- (b) it has a building area not more than the value in Table 3.2.2.78.

Table 3.2.2.78.**Maximum Building Area, Group F, Division 3, up to 2 Storeys**

Forming Part of Sentence 3.2.2.78.(1)

| No. of Storeys | Maximum Area, m ² | | |
|----------------|------------------------------|------------------|------------------|
| | Facing 1 Street | Facing 2 Streets | Facing 3 Streets |
| 1 | 1 600 | 2 000 | 2 400 |
| 2 | 800 | 1 000 | 1 200 |
| Column 1 | 2 | 3 | 4 |

(2) The building referred to in Sentence (1) is permitted to be of combustible construction or noncombustible construction used singly or in combination, and

- (a) floor assemblies shall be fire separations and, if of combustible construction, shall have a fire-resistance rating not less than 45 min,
- (b) loadbearing walls, columns and arches supporting an assembly required to have a fire-resistance rating shall
 - (i) have a fire-resistance rating not less than 45 min, or
 - (ii) be of noncombustible construction.

3.2.2.79. Group F, Division 3, up to 2 Storeys, Sprinklered

(1) A building classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
- (b) it is not more than 2 *storeys* in *building height*, and
- (c) it has a *building area* not more than
 - (i) 7 200 m² if 1 *storey* in *building height*, or
 - (ii) 2 400 m² if 2 *storeys* in *building height*.

(2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- (a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,
- (b) *loadbearing walls*, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
 - (i) have a *fire-resistance rating* not less than 45 min, or
 - (ii) be of *noncombustible construction*.

3.2.2.80. Group F, Division 3, One Storey

(1) A *building* classified as Group F, Division 3 is permitted to be of *heavy timber construction* or *noncombustible construction* used singly or in combination provided

- (a) it is not more than 1 *storey* in *building height*, and
- (b) it has a *building area* is not more than
 - (i) 5 600 m² if facing 1 *street*,
 - (ii) 7 000 m² if facing 2 *streets*, or
 - (iii) 8 400 m² if facing 3 *streets*.

3.2.2.81. Group F, Division 3, One Storey, Sprinklered

(1) A *building* classified as Group F, Division 3 is permitted to be of *heavy timber construction* or *noncombustible construction* used singly or in combination provided

- (a) except as permitted by Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
- (b) it is not more than 1 *storey* in *building height*, and
- (c) it has a *building area* not more than 16 800 m².

3.2.2.82. Group F, Division 3, One Storey, Any Area, Low Fire Load Occupancy

(1) A *building* classified as Group F, Division 3 is permitted to conform to Sentence (2) provided it is

- (a) not more than 1 *storey* in *building height*,

- (b) used solely for low *fire load occupancies* such as

- (i) power generating plants, or
- (ii) plants for the manufacture or storage of *noncombustible materials*, and
- (c) not limited in *building area*.

(2) The *building* referred to in Sentence (1) shall be of *noncombustible construction*.

3.2.2.83. Group F, Division 3, Storage Garages up to 22 m High

(1) A *building* used as a *storage garage* with all *storeys* constructed as *open-air storeys* and having no other *occupancy* above it is permitted to have its floor, wall, ceiling and roof assemblies constructed without a *fire-resistance rating* provided it is

- (a) of *noncombustible construction*,
- (b) not more than 22 m high, measured between *grade* and the ceiling level of the top *storey*,
- (c) not more than 10 000 m² in *building area*, and
- (d) designed so that every portion of each *floor area* is within 60 m of an exterior wall opening.

3.2.3. Spatial Separation and Exposure Protection

3.2.3.1. Limiting Distance and Area of Unprotected Openings

(1) Except as permitted by Articles 3.2.3.9. to 3.2.3.11., the area of *unprotected openings* in an *exposing building face* for the applicable *limiting distance* shall be not more than the value determined in accordance with

- (a) Table 3.2.3.1.A. or Table 3.2.3.1.B. for an *exposing building face* conforming to Article 3.2.3.2. of a *building* or *fire compartment* which is not *sprinklered*, or
- (b) Table 3.2.3.1.C. or Table 3.2.3.1.D. for an *exposing building face* conforming to Article 3.2.3.2. of a *sprinklered fire compartment* that is part of a *building* which is *sprinklered* in conformance with Section 3.2.

(2) The area of the *unprotected openings* in an *exposing building face* shall be the aggregate area of *unprotected openings* expressed as a percentage of the area of the *exposing building face* in Table 3.2.3.1.A., Table 3.2.3.1.B., Table 3.2.3.1.C. or Table 3.2.3.1.D.

(3) For the purpose of determining the type of construction and cladding and the *fire-resistance rating* of an exterior wall

- (a) the *exposing building face* shall be taken as the projection of the exterior wall onto a vertical plane located so that no portion of the exterior wall of the *building* or of a *fire compartment*, if the *fire compartment* complies with the requirements of Sentences 3.2.3.2.(2), (4) or (6), is between the vertical plane and the line to which the *limiting distance* is measured, and
- (b) the area of *unprotected openings* shall be determined from Table 3.2.3.1.A., Table 3.2.3.1.B., Table 3.2.3.1.C. or Table 3.2.3.1.D.

Table 3.2.3.1.A.

Unprotected Opening Limits for a Building or Fire Compartment that is not Sprinklered

Forming Part of Article 3.2.3.1.

| Exposing Building Face | | Area of Unprotected Openings for Groups A, C, D, and F, Division 3 Occupancies, % | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-----------------------------------|---|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|--|--|
| Maximum Area, m ² | Ratio (L/H or H/L) ⁽¹⁾ | Limiting Distance, m | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0 | 1.2 | 1.5 | 2.0 | 2.5 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 16 | 18 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | | |
| 10 | Less than 3:1 | 0 | 8 | 10 | 18 | 29 | 46 | 91 | 100 | | | | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 8 | 12 | 21 | 33 | 50 | 96 | 100 | | | | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 11 | 18 | 32 | 48 | 68 | 100 | | | | | | | | | | | | | | | | | | | | | |
| 15 | Less than 3:1 | 0 | 7 | 9 | 14 | 22 | 33 | 63 | 100 | | | | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 8 | 10 | 17 | 25 | 37 | 67 | 100 | | | | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 10 | 15 | 26 | 39 | 53 | 87 | 100 | | | | | | | | | | | | | | | | | | | | |
| 20 | Less than 3:1 | 0 | 7 | 9 | 12 | 18 | 26 | 49 | 81 | 100 | | | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 8 | 10 | 15 | 21 | 30 | 53 | 85 | 100 | | | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 9 | 14 | 23 | 33 | 45 | 72 | 100 | | | | | | | | | | | | | | | | | | | | |
| 25 | Less than 3:1 | 0 | 7 | 8 | 11 | 16 | 23 | 41 | 66 | 98 | 100 | | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 8 | 9 | 13 | 19 | 26 | 45 | 70 | 100 | | | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 9 | 13 | 21 | 30 | 39 | 62 | 90 | 100 | | | | | | | | | | | | | | | | | | | |
| 30 | Less than 3:1 | 0 | 7 | 8 | 11 | 15 | 20 | 35 | 56 | 83 | 100 | | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 7 | 9 | 12 | 17 | 23 | 39 | 61 | 88 | 100 | | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 8 | 12 | 19 | 27 | 36 | 56 | 79 | 100 | | | | | | | | | | | | | | | | | | | |
| 40 | Less than 3:1 | 0 | 7 | 8 | 10 | 13 | 17 | 28 | 44 | 64 | 89 | 100 | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 7 | 8 | 11 | 15 | 20 | 32 | 48 | 69 | 93 | 100 | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 8 | 11 | 17 | 24 | 31 | 47 | 66 | 88 | 100 | | | | | | | | | | | | | | | | | | |
| 50 | Less than 3:1 | 0 | 7 | 8 | 9 | 12 | 15 | 24 | 37 | 53 | 72 | 96 | 100 | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 7 | 8 | 10 | 14 | 18 | 28 | 41 | 57 | 77 | 100 | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 8 | 10 | 15 | 21 | 28 | 41 | 57 | 76 | 97 | 100 | | | | | | | | | | | | | | | | | |
| 60 | Less than 3:1 | 0 | 7 | 8 | 9 | 11 | 14 | 21 | 32 | 45 | 62 | 81 | 100 | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 7 | 8 | 10 | 13 | 16 | 25 | 36 | 49 | 66 | 85 | 100 | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 8 | 10 | 14 | 20 | 25 | 38 | 51 | 67 | 85 | 100 | | | | | | | | | | | | | | | | | |
| 80 | Less than 3:1 | 0 | 7 | 7 | 8 | 10 | 12 | 18 | 26 | 36 | 48 | 62 | 79 | 98 | 100 | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 7 | 8 | 9 | 11 | 14 | 21 | 29 | 40 | 52 | 67 | 84 | 100 | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 8 | 9 | 13 | 17 | 22 | 32 | 44 | 56 | 70 | 86 | 100 | | | | | | | | | | | | | | | | |
| 100 | Less than 3:1 | 0 | 7 | 7 | 8 | 9 | 11 | 16 | 22 | 30 | 40 | 51 | 65 | 80 | 97 | 100 | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 7 | 8 | 9 | 11 | 13 | 18 | 25 | 34 | 44 | 56 | 69 | 84 | 100 | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 7 | 9 | 12 | 16 | 20 | 29 | 39 | 49 | 61 | 74 | 89 | 100 | | | | | | | | | | | | | | | |
| 150 | Less than 3:1 | 0 | 7 | 7 | 8 | 9 | 10 | 13 | 17 | 22 | 29 | 37 | 46 | 56 | 67 | 79 | 93 | 100 | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 7 | 7 | 8 | 10 | 11 | 15 | 20 | 26 | 33 | 41 | 50 | 60 | 71 | 84 | 97 | 100 | | | | | | | | | | | |
| | over 10:1 | 0 | 7 | 8 | 11 | 13 | 17 | 24 | 31 | 39 | 48 | 57 | 68 | 79 | 91 | 100 | | | | | | | | | | | | | |
| 250 | Less than 3:1 | 0 | 7 | 7 | 7 | 8 | 9 | 10 | 13 | 16 | 20 | 25 | 30 | 36 | 43 | 51 | 59 | 68 | 87 | 100 | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 7 | 7 | 8 | 9 | 10 | 12 | 15 | 19 | 24 | 28 | 34 | 40 | 47 | 55 | 63 | 72 | 92 | 100 | | | | | | | | | |
| | over 10:1 | 0 | 7 | 8 | 9 | 11 | 14 | 19 | 24 | 30 | 36 | 43 | 50 | 57 | 65 | 73 | 82 | 92 | 100 | | | | | | | | | | |
| 350 | Less than 3:1 | 0 | 7 | 7 | 7 | 8 | 8 | 9 | 11 | 14 | 16 | 20 | 24 | 28 | 33 | 38 | 44 | 50 | 64 | 81 | 99 | 100 | | | | | | | |
| | 3:1 to 10:1 | 0 | 7 | 7 | 8 | 8 | 9 | 11 | 13 | 16 | 19 | 23 | 27 | 32 | 37 | 42 | 48 | 55 | 69 | 85 | 100 | | | | | | | | |
| | over 10:1 | 0 | 7 | 8 | 9 | 10 | 12 | 16 | 21 | 25 | 30 | 36 | 41 | 47 | 53 | 59 | 66 | 73 | 88 | 100 | | | | | | | | | |
| 500 | Less than 3:1 | 0 | 7 | 7 | 7 | 7 | 8 | 9 | 10 | 12 | 14 | 16 | 19 | 22 | 25 | 29 | 33 | 37 | 47 | 59 | 71 | 100 | | | | | | | |
| | 3:1 to 10:1 | 0 | 7 | 7 | 7 | 8 | 8 | 10 | 12 | 14 | 16 | 19 | 22 | 25 | 29 | 33 | 37 | 41 | 52 | 63 | 76 | 100 | | | | | | | |
| | over 10:1 | 0 | 7 | 7 | 8 | 9 | 11 | 14 | 18 | 22 | 25 | 30 | 34 | 38 | 43 | 48 | 53 | 58 | 70 | 82 | 96 | 100 | | | | | | | |
| 1 000 | Less than 3:1 | 0 | 7 | 7 | 7 | 7 | 7 | 8 | 9 | 9 | 10 | 12 | 13 | 14 | 16 | 18 | 20 | 22 | 27 | 33 | 39 | 58 | 82 | 100 | | | | | |
| | 3:1 to 10:1 | 0 | 7 | 7 | 7 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 17 | 19 | 21 | 23 | 26 | 31 | 37 | 43 | 63 | 86 | 100 | | | | | |
| | over 10:1 | 0 | 7 | 7 | 8 | 8 | 9 | 11 | 13 | 16 | 19 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 46 | 53 | 60 | 82 | 100 | | | | | | |
| 2 000 | Less than 3:1 | 0 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 17 | 20 | 23 | 33 | 44 | 58 | 74 | 93 | 100 | | |
| | 3:1 to 10:1 | 0 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 20 | 23 | 27 | 37 | 49 | 63 | 79 | 97 | 100 | | |
| | over 10:1 | 0 | 7 | 7 | 7 | 8 | 8 | 9 | 11 | 12 | 14 | 16 | 18 | 19 | 21 | 23 | 25 | 27 | 32 | 36 | 40 | 53 | 66 | 82 | 99 | 100 | | | |

Note to Table 3.2.3.1.A.:

(1) Apply whichever is greater,
 L = Length of exposing building face,
 H = Height of exposing building face

Table 3.2.3.1.B.

Unprotected Opening Limits for a Building or Fire Compartment that is not Sprinklered

Forming Part of Article 3.2.3.1.

| Exposing Building Face | | Area of Unprotected Openings for Groups E and F, Division 1 and 2 Occupancies, % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-----------------------------------|--|-----|-----|-----|-----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|-----|-----|
| Maximum Area, m ² | Ratio (L/H or H/L) ⁽¹⁾ | Limiting Distance, m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0 | 1.2 | 1.5 | 2.0 | 2.5 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 16 | 18 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | |
| 10 | Less than 3:1 | 0 | 4 | 5 | 9 | 15 | 23 | 46 | 77 | 100 | | | | | | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 6 | 10 | 17 | 25 | 48 | 79 | 100 | | | | | | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 5 | 9 | 16 | 24 | 34 | 58 | 91 | 100 | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Less than 3:1 | 0 | 4 | 5 | 7 | 11 | 16 | 32 | 53 | 79 | 100 | | | | | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 5 | 8 | 13 | 18 | 34 | 55 | 82 | 100 | | | | | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 5 | 8 | 13 | 19 | 26 | 43 | 66 | 93 | 100 | | | | | | | | | | | | | | | | | | | | | |
| 20 | Less than 3:1 | 0 | 4 | 4 | 6 | 9 | 13 | 25 | 40 | 61 | 85 | 100 | | | | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 5 | 7 | 11 | 15 | 27 | 43 | 63 | 87 | 100 | | | | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 5 | 7 | 11 | 17 | 22 | 36 | 53 | 74 | 99 | 100 | | | | | | | | | | | | | | | | | | | | |
| 25 | Less than 3:1 | 0 | 4 | 4 | 6 | 8 | 11 | 20 | 33 | 49 | 69 | 92 | 100 | | | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 5 | 7 | 9 | 13 | 22 | 35 | 51 | 71 | 94 | 100 | | | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 4 | 6 | 10 | 15 | 20 | 31 | 45 | 62 | 82 | 100 | | | | | | | | | | | | | | | | | | | | |
| 30 | Less than 3:1 | 0 | 4 | 4 | 5 | 7 | 10 | 18 | 28 | 42 | 58 | 77 | 100 | | | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 6 | 9 | 12 | 20 | 30 | 44 | 60 | 80 | 100 | | | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 4 | 6 | 10 | 14 | 18 | 28 | 40 | 54 | 71 | 91 | 100 | | | | | | | | | | | | | | | | | | | |
| 40 | Less than 3:1 | 0 | 4 | 4 | 5 | 6 | 8 | 14 | 22 | 32 | 44 | 59 | 76 | 94 | 100 | | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 6 | 8 | 10 | 16 | 24 | 34 | 47 | 61 | 78 | 97 | 100 | | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 4 | 5 | 8 | 12 | 15 | 23 | 33 | 44 | 57 | 72 | 89 | 100 | | | | | | | | | | | | | | | | | | |
| 50 | Less than 3:1 | 0 | 4 | 4 | 5 | 6 | 7 | 12 | 18 | 26 | 36 | 48 | 61 | 76 | 93 | 100 | | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 5 | 7 | 9 | 14 | 20 | 29 | 38 | 50 | 63 | 79 | 95 | 100 | | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 4 | 5 | 8 | 11 | 14 | 21 | 29 | 38 | 48 | 61 | 74 | 90 | 100 | | | | | | | | | | | | | | | | | |
| 60 | Less than 3:1 | 0 | 4 | 4 | 4 | 5 | 7 | 11 | 16 | 23 | 31 | 40 | 52 | 64 | 78 | 94 | 100 | | | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 5 | 6 | 8 | 12 | 18 | 25 | 33 | 43 | 54 | 66 | 81 | 96 | 100 | | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 4 | 5 | 7 | 10 | 13 | 19 | 26 | 34 | 43 | 53 | 64 | 77 | 92 | 100 | | | | | | | | | | | | | | | | |
| 80 | Less than 3:1 | 0 | 4 | 4 | 4 | 5 | 6 | 9 | 13 | 18 | 24 | 31 | 40 | 49 | 60 | 71 | 84 | 98 | 100 | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 5 | 6 | 7 | 10 | 15 | 20 | 26 | 33 | 42 | 51 | 62 | 74 | 86 | 100 | | | | | | | | | | | | | | |
| | over 10:1 | 0 | 4 | 5 | 6 | 9 | 11 | 16 | 22 | 28 | 35 | 43 | 52 | 62 | 73 | 85 | 98 | 100 | | | | | | | | | | | | | | |
| 100 | Less than 3:1 | 0 | 4 | 4 | 4 | 5 | 5 | 8 | 11 | 15 | 20 | 26 | 32 | 40 | 48 | 58 | 68 | 79 | 100 | | | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 4 | 5 | 6 | 9 | 13 | 17 | 22 | 28 | 35 | 42 | 51 | 60 | 70 | 81 | 100 | | | | | | | | | | | | | |
| | over 10:1 | 0 | 4 | 4 | 6 | 8 | 10 | 14 | 19 | 25 | 31 | 37 | 44 | 52 | 61 | 71 | 81 | 92 | 100 | | | | | | | | | | | | | |
| 150 | Less than 3:1 | 0 | 4 | 4 | 4 | 4 | 5 | 6 | 8 | 11 | 14 | 18 | 23 | 28 | 33 | 40 | 46 | 54 | 70 | 89 | 100 | | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 4 | 5 | 6 | 8 | 10 | 13 | 16 | 20 | 25 | 30 | 36 | 42 | 49 | 56 | 73 | 92 | 100 | | | | | | | | | | | |
| | over 10:1 | 0 | 4 | 4 | 5 | 7 | 8 | 12 | 16 | 20 | 24 | 29 | 34 | 39 | 46 | 52 | 59 | 67 | 84 | 100 | | | | | | | | | | | | |
| 250 | Less than 3:1 | 0 | 4 | 4 | 4 | 4 | 4 | 5 | 7 | 8 | 10 | 12 | 15 | 18 | 22 | 25 | 29 | 34 | 44 | 55 | 68 | 100 | | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 4 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 17 | 20 | 24 | 27 | 32 | 36 | 46 | 57 | 70 | 100 | | | | | | | | | | |
| | over 10:1 | 0 | 4 | 4 | 5 | 6 | 7 | 9 | 12 | 15 | 18 | 21 | 25 | 28 | 32 | 37 | 41 | 46 | 56 | 68 | 81 | 100 | | | | | | | | | | |
| 350 | Less than 3:1 | 0 | 4 | 4 | 4 | 4 | 4 | 5 | 6 | 7 | 8 | 10 | 12 | 14 | 16 | 19 | 22 | 25 | 32 | 40 | 49 | 77 | 100 | | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 4 | 4 | 4 | 5 | 7 | 8 | 10 | 12 | 14 | 16 | 18 | 21 | 24 | 27 | 34 | 43 | 52 | 79 | 100 | | | | | | | | | |
| | over 10:1 | 0 | 4 | 4 | 4 | 5 | 6 | 8 | 10 | 13 | 15 | 18 | 21 | 23 | 26 | 30 | 33 | 36 | 44 | 53 | 62 | 90 | 100 | | | | | | | | | |
| 500 | Less than 3:1 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 6 | 7 | 8 | 9 | 11 | 13 | 14 | 16 | 19 | 24 | 29 | 36 | 55 | 78 | 100 | | | | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 6 | 7 | 8 | 9 | 11 | 13 | 14 | 16 | 18 | 21 | 26 | 31 | 38 | 57 | 80 | 100 | | | | | | | |
| | over 10:1 | 0 | 4 | 4 | 4 | 5 | 5 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 24 | 26 | 29 | 35 | 41 | 48 | 68 | 92 | 100 | | | | | | | | |
| 1 000 | Less than 3:1 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 8 | 9 | 10 | 11 | 14 | 16 | 20 | 29 | 41 | 55 | 71 | 89 | 100 | | | | | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 15 | 18 | 22 | 31 | 43 | 57 | 73 | 91 | 100 | | | | |
| | over 10:1 | 0 | 4 | 4 | 4 | 4 | 4 | 5 | 6 | 7 | 8 | 9 | 11 | 12 | 13 | 15 | 16 | 18 | 20 | 23 | 26 | 30 | 41 | 53 | 68 | 84 | 100 | | | | | |
| 2 000 | Less than 3:1 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 9 | 10 | 12 | 16 | 22 | 29 | 37 | 46 | 56 | 68 | 80 | 94 | 100 | |
| | 3:1 to 10:1 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 9 | 10 | 12 | 13 | 18 | 24 | 31 | 39 | 49 | 59 | 70 | 83 | 96 | 100 |
| | over 10:1 | 0 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 16 | 18 | 20 | 26 | 33 | 41 | 50 | 59 | 70 | 81 | 94 | 100 | | |

Note to Table 3.2.3.1.B.:

(1) Apply whichever is greater,

L = Length of exposing building face,

H = Height of exposing building face

Table 3.2.3.1.C.

Unprotected Opening Limits for a Building or Fire Compartment that is Sprinklered

Forming Part of Article 3.2.3.1.

| <i>Exposing Building Face</i> | <i>Area of Unprotected Opening for Groups A, B, C, D and F, Division 3, Occupancies, %</i> | | | | | | | | | | | |
|------------------------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <i>Maximum Area, m²</i> | <i>Limiting Distance, m</i> | | | | | | | | | | | |
| | 0 | 1.2 | 1.5 | 2.0 | 2.5 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 0 | 16 | 24 | 42 | 66 | 100 | | | | | | |
| 15 | 0 | 16 | 20 | 34 | 50 | 74 | 100 | | | | | |
| 20 | 0 | 16 | 20 | 30 | 42 | 60 | 100 | | | | | |
| 25 | 0 | 16 | 18 | 26 | 38 | 52 | 90 | 100 | | | | |
| 30 | 0 | 14 | 18 | 24 | 34 | 46 | 78 | 100 | | | | |
| 40 | 0 | 14 | 16 | 22 | 30 | 40 | 64 | 96 | 100 | | | |
| 50 | 0 | 14 | 16 | 20 | 28 | 36 | 56 | 82 | 100 | | | |
| 60 | 0 | 14 | 16 | 20 | 26 | 32 | 50 | 72 | 98 | 100 | | |
| 80 | 0 | 14 | 16 | 18 | 22 | 28 | 42 | 58 | 80 | 100 | | |
| 100 | 0 | 14 | 16 | 18 | 22 | 26 | 36 | 50 | 68 | 88 | 100 | |
| 150 or more | 0 | 14 | 14 | 16 | 20 | 22 | 30 | 40 | 52 | 66 | 82 | 100 |

Table 3.2.3.1.D.

Unprotected Opening Limits for a Building or Fire Compartment that is Sprinklered

Forming Part of Article 3.2.3.1.

| Exposing Building Face | Area of Unprotected Opening for Groups E and F, Division 1 and 2, Occupancies, % | | | | | | | | | | | | | | | | | |
|------------------------------|--|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|
| Maximum Area, m ² | Limiting Distance, m | | | | | | | | | | | | | | | | | |
| | 0 | 1.2 | 1.5 | 2.0 | 2.5 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 10 | 0 | 10 | 12 | 20 | 34 | 15 | 96 | 100 | | | | | | | | | | |
| 15 | 0 | 8 | 10 | 16 | 26 | 36 | 68 | 100 | | | | | | | | | | |
| 20 | 0 | 8 | 10 | 14 | 22 | 30 | 54 | 86 | 100 | | | | | | | | | |
| 25 | 0 | 8 | 10 | 14 | 18 | 26 | 44 | 70 | 100 | | | | | | | | | |
| 30 | 0 | 8 | 8 | 12 | 18 | 24 | 40 | 60 | 88 | 100 | | | | | | | | |
| 40 | 0 | 8 | 8 | 12 | 16 | 20 | 32 | 48 | 68 | 94 | 100 | | | | | | | |
| 50 | 0 | 8 | 8 | 10 | 14 | 18 | 28 | 40 | 58 | 76 | 100 | | | | | | | |
| 60 | 0 | 8 | 8 | 10 | 12 | 16 | 24 | 36 | 50 | 66 | 86 | 100 | | | | | | |
| 80 | 0 | 8 | 8 | 10 | 12 | 14 | 20 | 30 | 40 | 52 | 66 | 84 | 100 | | | | | |
| 100 | 0 | 8 | 8 | 8 | 10 | 12 | 18 | 26 | 34 | 44 | 56 | 70 | 84 | 100 | | | | |
| 150 | 0 | 8 | 8 | 8 | 10 | 12 | 16 | 20 | 26 | 32 | 40 | 50 | 60 | 72 | 84 | 98 | 100 | |
| 200 or more | 0 | 8 | 8 | 8 | 8 | 10 | 14 | 18 | 22 | 28 | 34 | 42 | 50 | 60 | 68 | 80 | 92 | 100 |

(4) For the purpose of determining the actual percentage of *unprotected openings* permitted in an exterior wall, the location of the *exposing building face* is permitted to be taken at a vertical plane located so that there are no *unprotected openings* between the vertical plane and the line to which the *limiting distance* is measured.

$$A_c = A + (A_F \times F_{EO})$$

where

(5) If a building has any storey that is not *sprinklered* and fire fighting facilities cannot reach it within 10 min of the alarm being received, the required *limiting distance* shall be doubled.

A_c = corrected area of *unprotected openings* including actual and equivalent openings,

A = actual area of *unprotected openings*,

(6) If the surface temperature on the unexposed surface of a wall assembly exceeds the temperature limit of a standard fire test as permitted by Article 3.1.7.2., an allowance shall be made for the radiation from the hot unexposed wall surface by adding an equivalent area of *unprotected opening* to the area of actual openings as follows:

A_F = area of exterior surface of the *exposing building face* exclusive of openings on which the temperature limit of the standard test is exceeded, and

F_{EO} = an equivalent opening factor derived from the following expression:

$$F_{EO} = \frac{(T_u + 273)^4}{(T_e + 273)^4}$$

where

T_u = average temperature in degrees Celsius of the unexposed wall surface at the time the required *fire-resistance rating* is reached under test conditions,

T_e = 892°C for a *fire-resistance rating* not less than 45 min, 927°C for a *fire-resistance rating* not less than 1 h, and 1010°C for a *fire-resistance rating* not less than 2 h.

(7) Unless a *closure* used to protect an opening in an *exposing building face* has a protective performance equivalent to that required for the wall assembly in which it is located, an equivalent area of *unprotected opening*, determined in accordance with the procedures of Sentence (6) shall be added to the greater of

- (a) the actual area of *unprotected openings*, or
- (b) the corrected area of *unprotected openings*.

(8) The required *limiting distance* for an *exposing building face* is permitted to be measured to a point beyond the property line that is not the centre line of a *street*, lane or public thoroughfare if

- (a) the owners of the properties on which the *limiting distance* is measured and the *municipality* enter into an agreement in which such owners agree that
 - (i) each owner covenants that, for the benefit of land owned by the other covenantors, the owner will not *construct a building* on his or her property unless the *limiting distance* for *exposing building faces* in respect of the proposed *construction* is measured in accordance with the agreement,
 - (ii) the covenants contained in the agreement are intended to run with the lands, and the agreement shall be binding on the parties and their respective heirs, executors, administrators, successors and assigns,
 - (iii) the agreement shall not be amended or deleted from title without the consent of the *municipality*, and
 - (iv) they will comply with such other conditions as the *municipality* considers necessary, including indemnification of the *municipality* by the other parties, and
- (b) the agreement referred to in Clause (a) is registered against the title of the properties to which it applies.

(9) Where an agreement referred to in Sentence (8) is registered against the title of a property, the *limiting distance* for *exposing building faces* shall be measured to the point referred to in the agreement.

3.2.3.2. Area of Exposing Building Face

(1) Except as permitted by Sentences (2), (4), (6) and (7), the area of an *exposing building face* shall be calculated as the total area of exterior wall facing in one direction on any side of a *building* measured from the finished ground level to the uppermost ceiling.

(2) Except as permitted by Sentence (3), if a building containing only Group A, B, C, D or Group F, Division 3 *occupancies* is divided by *fire separations* into *fire compartments*, the area of *exposing building*

face is permitted to be calculated for each *fire compartment* provided the *fire separations* have a *fire-resistance rating* not less than 1 h.

(3) The *fire-resistance rating* of the *fire separations* referred to in Sentence (2) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

- (a) the floor assembly above the *fire compartment*, or
- (b) the floor assembly below the *fire compartment*, if there is no floor assembly above.

(4) Except as required by Sentence (5), if a *building* containing Group E or Group F, Division 1 or 2 *occupancies* is divided by *fire separations* into *fire compartments*, the area of *exposing building face* is permitted to be calculated for each *fire compartment* provided the *fire separations* have a *fire-resistance rating* not less than 45 min.

(5) The *fire-resistance rating* of the *fire separations* referred to in Sentence (4) shall be not less than that required by Subsection 3.2.2. for

- (a) the floor assembly above the *fire compartment*, or
- (b) the floor assembly below the *fire compartment*, if there is no floor assembly above.

(6) For the purposes of Sentence (1), where a horizontal *fire separation* is penetrated by openings that are not provided with *closures*, and the openings are in conformance with Article 3.2.8.2., the *fire separation* is permitted to be considered as enclosing construction for the purposes of determining *fire compartments*.

(7) For the purposes of Sentence (1), where an *interconnected floor space* is in conformance with Articles 3.2.8.3. to 3.2.8.11., each *storey* in the *interconnected floor space* is permitted to be considered a *fire compartment*.

3.2.3.3. Wall Enclosing Attic or Roof Space

(1) An exterior wall enclosing an *attic or roof space* and located above an *exposing building face*, shall be constructed in conformance with the requirements for the *exposing building face*.

3.2.3.4. Party Wall

(1) A *party wall* shall be constructed as a *firewall*.

3.2.3.5. Wall with Limiting Distance less than 1.2 m

(1) Openings in a wall that has a *limiting distance* less than 1.2 m shall be protected by *closures* whose *fire-protection rating* is in conformance with the *fire-resistance rating* required for the wall.

(2) Wired glass or glass block shall not be used for a *closure* referred to in Sentence (1).

3.2.3.6. Combustible Projections

(1) Except for a *building* containing one or 2 *dwelling units* only, *combustible* projections on the exterior of a wall that could expose an adjacent *building* to fire spread and are more than 1 000 mm above ground level, including balconies, platforms, *canopies*, eave projections and stairs, shall not be permitted within

- (a) 1 200 mm of a property line or the centreline of a *public way*, or
- (b) 2 400 mm of a *combustible* projection on another *building* on the same property.

3.2.3.7. Construction of Exposing Building Face

(1) Except as permitted by Articles 3.2.3.9. and 3.2.3.10., if a *limiting distance* shown in Table 3.2.3.1.A. or Table 3.2.3.1.C. for a Group A, B, C, D or Group F, Division 3 *occupancy* classification permits an *exposing building face* to have *unprotected openings* not more than 10% of the *exposing building face*, the *exposing building face* shall be

(a) of *noncombustible construction* having a *fire-resistance rating* not less than 1 h, and

(b) clad with *noncombustible cladding*.

(2) Except as permitted by Sentence (9) and Articles 3.2.3.9. and 3.2.3.10., if a *limiting distance* shown in Table 3.2.3.1.A. or Table 3.2.3.1.C. for a Group A, B, C, D or Group F, Division 3 *occupancy* classification permits an *exposing building face* to have *unprotected openings* more than 10% but not more than 25% of the *exposing building face*, the *exposing building face* shall

(a) have a *fire-resistance rating* not less than 1 h, and

(b) be clad with *noncombustible cladding*.

(3) Except as permitted by Articles 3.2.3.9. and 3.2.3.10., if a *limiting distance* shown in Table 3.2.3.1.A. or Table 3.2.3.1.C. for a Group A, B, C, D or Group F, Division 3 *occupancy* classification permits an *exposing building face* to have *unprotected openings* more than 25% but less than 100% of the *exposing building face*, the *exposing building face* shall have a *fire-resistance rating* not less than 45 min.

(4) Except as permitted by Article 3.2.3.9., if a *limiting distance* shown in Table 3.2.3.1.B. or Table 3.2.3.1.D. for a Group E, or Group F, Division 1 or 2 *occupancy* classification permits an *exposing building face* to have *unprotected openings* not more than 10% of the *exposing building face*, the *exposing building face* shall be

(a) of *noncombustible construction* having a *fire-resistance rating* not less than 2 h, and

(b) clad with *noncombustible cladding*.

(5) Except as permitted by Sentence (9) and Article 3.2.3.9., if a *limiting distance* shown in Table 3.2.3.1.B. or Table 3.2.3.1.D. for a Group E, or Group F, Division 1 or 2 *occupancy* classification permits an *exposing building face* to have *unprotected openings* more than 10% but not more than 25% of the *exposing building face*, the *exposing building face* shall

(a) have a *fire-resistance rating* not less than 2 h, and

(b) be clad with *noncombustible cladding*.

(6) Except as permitted by Article 3.2.3.9., if a *limiting distance* shown in Tables 3.2.3.1.B. or Table 3.2.3.1.D. for a Group E, or Group F, Division 1 or 2 *occupancy* classification permits an *exposing building face* to have *unprotected openings* more than 25% but less than 100% of the *exposing building face*, the *exposing building face* shall have a *fire-resistance rating* not less than 1 h.

(7) Except as permitted by Sentence (9), in addition to the requirements of Sentences (2), (3), (5) and (6), foamed plastic insulation used in an exterior wall of a *building* more than 3 *storeys* in *building height* shall be protected on its exterior surface by

(a) concrete or masonry not less than 25 mm thick, or

(b) *noncombustible* material that complies with the criteria for testing and conditions of acceptance of Sentence (8) when tested in conformance with CAN/ULC-S101-M, "Standard Methods of Fire Endurance Tests of Building Construction and Materials".

(8) The criteria for testing and the conditions of acceptance for a wall assembly to satisfy the requirements of Clause (7)(b) are that

(a) the fire exposed area of the wall assembly shall be not less than 9.3 m² and have no dimension less than 2 750 mm,

(b) the exposed surface will include typical vertical and horizontal joints,

(c) the test shall be continued for not less than 15 min and the standard time/temperature curve of the referenced standard shall be followed,

(d) the *noncombustible* protective material will remain in place and no through openings will develop that are visible when viewed normal to the face of the material, and

(e) the *noncombustible* protective material will not disintegrate in a manner that would permit fire to propagate along the surface of the test assembly.

(9) The requirements of Clauses (2)(b) and (5)(b) and Sentence (7) are waived for a wall assembly that complies with the requirements of Article 3.1.5.5.

3.2.3.8. Protection of Structural Members

(1) Structural members, including beams, columns and arches, placed wholly or partly outside an exterior face of a *building* and 3 m or more from the property line or centreline of a public thoroughfare need not be protected from exterior fires.

(2) Structural members referred to in Sentence (1) that are less than 3 m from the property line or centreline of a public thoroughfare shall be protected from exterior fire by fire protection having a *fire-resistance rating* not less than that required by Articles 3.2.2.20. to 3.2.2.83. for their protection from interior fires, but not less than 1 h.

(3) Structural members of *heavy timber construction*, including beams, columns and arches, placed wholly or partly outside an exterior face of a *building* and 3 m or more from the property line or centreline of a public thoroughfare need not be covered with *noncombustible cladding*.

3.2.3.9. Unlimited Unprotected Openings

(1) An *exposing building face* of an *open-air storey* in a *storage garage* is permitted to have unlimited *unprotected openings* provided it has a *limiting distance* not less than 3 m.

(2) The *exposing building face* of a *storey* that faces a *street* and is at the same level as the *street* is permitted to have unlimited *unprotected openings* if the *limiting distance* is not less than 9 m.

3.2.3.10. Low Fire Load, One Storey Building

(1) An *exposing building face* of a *building* of low hazard industrial *occupancy* conforming to Article 3.2.2.82. is permitted to be of *noncombustible construction* without a *fire-resistance rating* provided

(a) it is not a *loadbearing wall*, and

(b) the *limiting distance* is not less than 3 m.

3.2.3.11. Area Increase for Unprotected Openings

(1) The maximum area of *unprotected openings* in any *exposing building face* is permitted to be doubled if the openings are glazed with

- (a) glass block conforming to the requirements of Article 3.1.8.14., or
- (b) wired glass assemblies conforming to the Supplementary Guidelines.

3.2.3.12. Protection of Exit Facilities

(1) Except as required by Sentence (3) and as permitted by Sentence 3.4.4.3.(1), if the plane of an exterior wall of an *exit* enclosure forms an angle less than 135° with the plane of an exterior wall of the *building* it serves, and an opening in the exterior wall of the *exit* enclosure could be exposed to fire from an opening in the exterior wall of the *building*, the opening in either the exterior wall of the *exit* or the exterior wall of the *building* shall be protected in conformance with the requirements of Sentence (4) where the opening in the exterior wall of the *building* is within 3 m horizontally and

- (a) less than 10 m below an opening in the exterior wall of the *exit*, or
- (b) less than 2 m above an opening in the exterior wall of the *exit*.

(2) If an unenclosed exterior *exit* stair or ramp could be exposed to fire from an opening in the exterior wall of the *building* it serves, the opening in the exterior wall of the *building* shall be protected in conformance with the requirements of Sentence (4) where the opening in the exterior wall of the *building* is within 3 m horizontally and

- (a) less than 10 m below the *exit* stair or ramp, or
- (b) less than 5 m above the *exit* stair or ramp.

(3) Except as permitted by Sentence 3.4.4.3.(1), if an exterior *exit* door in one *fire compartment* is within 3 m horizontally of an opening in another *fire compartment* and the exterior walls of these *fire compartments* intersect at an exterior angle of less than 135°, the opening shall be protected in conformance with the requirements of Sentence (4).

(4) The opening protection referred to in Sentences (1), (2) and (3) shall consist of

- (a) glass block conforming to the requirements of Article 3.1.8.14.,
- (b) a wired glass assembly conforming to the Supplementary Guidelines, or
- (c) a *closure* conforming to the requirements of Subsection 3.1.8. and Articles 3.2.3.1. and 3.2.3.13.

3.2.3.13. Wall Exposed to Another Wall

(1) Except as required by Sentences (3) and 3.2.3.12.(1) or as permitted by Sentence 3.2.3.18.(4), if an *unprotected opening* in an exterior wall of a *fire compartment* is exposed to an *unprotected opening* in the exterior wall of another *fire compartment*, and the planes of the 2 walls are parallel or at an angle less than 135°, measured from the exterior of the *building*, the *unprotected openings* in the 2 *fire compartments* shall be separated by a distance not less than D_0 where $D_0 = 2D - \{(\theta/90) \times D\}$ but in no case less than 1 000 mm, and

D = the greater required *limiting distance* for the *exposing building faces* of the 2 *fire compartments*, and

θ = the angle made by the intersecting planes of the *exposing building faces* of the 2 *fire compartments* (in the case where the exterior walls are parallel and face each other, $\theta = 0^\circ$).

(2) The exterior wall of each *fire compartment* referred to in Sentence (1) within the distance, D_0 , shall have a *fire-resistance rating* not less than that required for the interior vertical *fire separation* between the *fire compartment* and the remainder of the *building*.

(3) Sentence (1) does not apply to *unprotected openings* of *fire compartments* within a *building* that is *sprinklered*, but shall apply to

- (a) *unprotected openings* of *fire compartments* on opposite sides of a *firewall*, and
- (b) exposure from *unprotected openings* of a *fire compartment* that is not protected by an automatic sprinkler system.

3.2.3.14. Wall Exposed to Adjoining Roof

(1) Except as permitted by Sentence 3.2.3.18.(4), if a wall in a *building* is exposed to a fire hazard from an adjoining roof of a separate *fire compartment* that is not *sprinklered* in the same *building*, and the exposed wall contains windows within 3 *storeys* vertically and 5 m horizontally of the roof, the roof shall contain no skylights within 5 m of the exposed wall.

3.2.3.15. Protection of Soffits

(1) Except as permitted by Sentences (2) and (3), where a common *attic* or *roof space* spans more than 2 *suites* of *residential occupancy* or more than 2 *patients'* or *residents'* sleeping rooms in a Group B, Division 2 or Division 3 *occupancy*, and the common *attic* or *roof space* projects beyond the exterior wall of the *building*, the portion of any soffit or other surface enclosing the projection which is less than 2 500 mm vertically above a window or door and less than 1 200 mm from either side of the window or door, shall have no openings and shall be protected by

- (a) *noncombustible material*
 - (i) not less than 0.38 mm thick, and
 - (ii) having a melting point not below 650°C,
- (b) not less than 12.7 mm thick gypsum soffit board or gypsum wallboard installed according to CSA A82.31-M, "Gypsum Board Application",
- (c) not less than 11 mm thick plywood,
- (d) not less than 12.5 mm thick OSB or waferboard, or
- (e) not less than 11 mm thick lumber.

(2) Where an *attic* or *roof space*, including its adjoining *eave overhangs*, is separated by construction conforming to Article 3.1.11.7. into compartments such that the resulting spaces are not common to more than 2 *suites* of *residential occupancy* or more than 2 *patients'* or *residents'* sleeping rooms in a Group B, Division 2 or Division 3 *occupancy*, the requirements in Sentence (1) do not apply.

(3) If an *eave overhang* is completely separated from the remainder of the *attic* or *roof space* by fire stopping, the requirements of Sentence (1) do not apply.

(4) The protection required by Sentence (1) for projections is permitted to be omitted if

- (a) the *fire compartments* behind the window and door openings are *sprinklered* in accordance with Article 3.2.5.13., and
- (b) all rooms, including closets and bathrooms, having openings in the wall beneath the soffit are *sprinklered*, notwithstanding exceptions permitted in the standards referenced in Article 3.2.5.13. for the installation of automatic sprinkler systems.

3.2.3.16. Canopy Protection for Vertically Separated Openings

(1) Except as permitted by Sentences (2) and (3), if a *storey* classified as a Group E or Group F, Division 1 or 2 *major occupancy* is required to be separated from the *storey* above by a *fire separation*

- (a) every opening in the exterior wall of the lower *storey* that is located vertically below an opening in the *storey* above shall be separated from the *storey* above by a *canopy* projecting not less than 1 000 mm from the face of the *building* at the intervening floor level, and

(b) the *canopy* required by Clause (a) shall have a *fire-resistance rating* not less than that required for the floor assembly but need not be more than 1 h, except as required elsewhere in this Subsection.

(2) Except as permitted by Sentence (3), the *canopy* required by Sentence (1) is permitted to be omitted if the exterior wall of the upper *storey* is recessed not less than 1 000 mm behind the exterior wall containing the opening in the lower *storey*.

(3) The requirements of Sentences (1) and (2) are permitted to be waived if sprinklers are installed in

- (a) the lower *storey* referred to in Clause (1)(a), and
- (b) the *storey* immediately above the lower *storey*.

3.2.3.17. Covered Vehicular Passageway

(1) A covered vehicular passageway designed as a receiving or shipping area shall be separated from every *building* or part of a *building* adjoining it by a *fire separation* having a *fire-resistance rating* not less than 1.5 h.

(2) A covered vehicular passageway constructed below *grade* shall be of *noncombustible construction*.

3.2.3.18. Walkway between Buildings

(1) Except as required by Sentence 3.2.3.19.(2), if *buildings* are connected by a *walkway*, each *building* shall be separated from the *walkway* by a *fire separation* with a *fire-resistance rating* not less than 45 min.

(2) Except as permitted by Sentence (3), a *walkway* connected to a *building* required to be of *noncombustible construction* shall also be of *noncombustible construction*.

(3) A *walkway* connected to a *building* required to be of *noncombustible construction* is permitted to be of *heavy timber construction* provided

- (a) not less than 50% of the area of any enclosing perimeter walls is open to the outdoors, and
- (b) the *walkway* is at ground level.

(4) A *walkway* of *noncombustible construction* used only as a pedestrian thoroughfare need not conform to the requirements of Articles 3.2.3.13. and 3.2.3.14.

(5) A *walkway* between *buildings* shall be not more than 9 m wide.

3.2.3.19. Underground Walkway

(1) An underground *walkway* shall not be designed or used for any purpose other than pedestrian travel unless

- (a) the purpose is permitted, and
- (b) sprinklers are installed in any space in the *walkway* containing an *occupancy*.

(2) *Buildings* connected by an underground *walkway* shall be separated from the *walkway* by a *fire separation* with a *fire-resistance rating* not less than 1 h.

(3) An underground *walkway* shall be of *noncombustible construction* suitable for an underground location.

(4) In an underground *walkway*

- (a) smoke barrier doors shall be installed at intervals of not more than 100 m, or
- (b) the travel distance from the door of an adjacent room or space to the nearest *exit* shall be not more than one and a half times the least allowable travel distance to an *exit* for any of the adjacent *occupancies* as permitted by Sentence 3.4.2.5.(1).

(5) An underground *walkway* between *buildings* shall be not more than 9 m wide.

3.2.4. Fire Alarm and Detection Systems

3.2.4.1. Determination of Requirement for a Fire Alarm System

(1) Reserved

(2) Except as permitted by Sentences (3) to (5) and Sentence 3.2.4.2.(4), a fire alarm system shall be installed in a *building* that contains

- (a) a *contained use area*,
- (b) an *impeded egress zone*,
- (c) more than 3 *storeys*, including *storeys* below *grade*,
- (d) a total *occupant load* more than 300, other than in open air seating areas,
- (e) an *occupant load* more than 150 above or below the *first storey*, other than in open air seating areas,
- (f) a school, college, or child care facility, with an *occupant load* more than 40,
- (g) a licensed beverage establishment or a restaurant, with an *occupant load* more than 150,
- (h) a *medium hazard industrial occupancy* or a *low hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,
- (i) a *residential occupancy* with sleeping accommodation for more than 10 persons,

- (j) a *high hazard industrial occupancy* with an *occupant load* more than 25,
 - (k) an *occupant load* more than 300 below an open air seating area,
 - (l) an *interconnected floor space* required to conform to Articles 3.2.8.3. to 3.2.8.11,
 - (m) a *care and treatment occupancy* for more than 10 persons receiving care or treatment, or
 - (n) a *care occupancy* for more than 10 persons receiving care.
- (3) If each *dwelling unit* has direct access to an exterior *exit* facility leading to ground level, a fire alarm system is not required in an *apartment building*
- (a) in which not more than 4 *dwelling units* share a common *means of egress*, or
 - (b) which is not more than 3 *storeys* in *building height*.
- (4) A fire alarm system is not required in a *hotel* 3 *storeys* or less in *building height* provided each *suite* has direct access to an exterior *exit* facility leading to ground level.

(5) A fire alarm system is not required in a *storage garage* conforming to Article 3.2.2.83. provided there are no other *occupancies* in the *building*.

3.2.4.2. Continuity of Fire Alarm System

(1) If there are openings through a *firewall*, other than those for piping, tubing, wiring and totally enclosed *noncombustible* raceways, the requirements in this Subsection shall apply to the *floor areas* on both sides of the *firewall* as if they were in the same *building*.

(2) Except as permitted by Sentence (4), if a *building* contains more than one *major occupancy* and a fire alarm system is required, a single system shall serve all *occupancies*.

(3) Except as permitted by Sentence (4), if a fire alarm system is required in any portion of a *building*, it shall be installed throughout the *building*.

(4) Except as required by Sentence (5), the requirements in this Subsection are permitted to be applied to each portion of a *building* not more than 3 *storeys* in *building height*, in which a vertical *fire separation* having a *fire-resistance rating* not less than 1 h separates the portion from the remainder of the *building* as if it were a separate *building*, provided there are no openings through the *fire separation*, other than those for piping, tubing, wiring and totally enclosed *noncombustible* raceways.

(5) The permission in Sentence (4) to consider separated portions of a *building* as separate *buildings* does not apply to *service rooms* and *storage rooms*.

3.2.4.3. Types of Fire Alarm Systems

- (1) A fire alarm system shall be
 - (a) a single stage system in a Group F, Division 1 *occupancy*,
 - (b) a 2 stage system in a Group B *occupancy* other than those described in Clause (c),

- (c) a single or 2 stage system in a *building* 3 *storeys* or less in *building height* which contains a Group B, Division 3 *occupancy*,
- (d) a single stage system in elementary and secondary schools, except for a special needs facility, and
- (e) a single or 2 stage system in all other cases.

3.2.4.4. Description of Fire Alarm Systems

(1) A single stage fire alarm system shall, upon the operation of any manual pull station or *fire detector*, cause an *alarm signal* to sound on all audible signal devices in the system.

(2) A 2 stage fire alarm system shall

- (a) cause an *alert signal* to sound upon the operation of any manual pull station or *fire detector*,
- (b) except for a Group B, Division 2 *occupancy*, automatically cause an *alarm signal* to sound if the *alert signal* is not acknowledged within 5 min of its initiation,
- (c) have each manual pull station equipped so that the use of a key or other similar device causes an *alarm signal* to sound and continue to sound upon the removal of the key or similar device from the manual pull station, and

(d) in a *building* containing a *hotel*

- (i) cause an *alarm signal* to sound in the initiating fire zone in the *hotel*, and
- (ii) cause an *alert signal* to sound throughout the *hotel* and such parts of the *building* as is necessary to alert *hotel* staff.

(3) A 2 stage fire alarm system is permitted to be zone coded so that, upon the operation of any manual pull station or *fire detector*

- (a) a coded *alert signal* is sounded indicating the zone of alarm initiation,
- (b) the coded *alert signal* is repeated in its entirety not less than 4 times, and
- (c) a continuous *alert signal* is sounded upon completion of the coded signals referred to in Clause (b) and Sentence (4).

(4) If a second manual pull station or *fire detector* is operated in a fire alarm system with zone coding as permitted by Sentence (3), in a zone other than that for which the first *alert signal* was sounded, the coded *alert signal* for the first zone shall be completed before the coded *alert signal* for the second zone is repeated not less than 4 times.

3.2.4.5. Installation and Testing of Fire Alarm Systems

(1) Fire alarm and voice communication systems shall be installed in conformance with CAN/ULC-S524-M, "Standard for the Installation of Fire Alarm Systems".

(2) A fire alarm system shall be tested in conformance with CAN/ULC-S537-M, "Standard for the Verification of Fire Alarm Systems", to ensure satisfactory operation.

3.2.4.6. Silencing of Alarm Signals

(1) Except as permitted by Sentence (3), a fire alarm system shall be designed so that when an *alarm signal* is actuated, it cannot be silenced automatically before a period of time has elapsed that is not less than

(a) 5 min for a *building* not required to be equipped with an annunciator, and

(b) 20 min for any other *building*.

(2) Except as permitted by Sentences 3.2.4.19.(9), and 3.2.4.22.(2) and (3), a fire alarm system shall not incorporate manual silencing switches other than those installed inside the fire alarm control unit.

(3) Except as provided in Clause 3.2.4.22.(2)(a), in a *care and treatment occupancy* an *alert signal* is permitted to be silenced automatically after 1 min.

3.2.4.7. Signals to Fire Department

(1) If a fire alarm system is required to be installed and a single stage system is provided, the system shall be designed to notify the fire department in conformance with Sentence (4) that an *alarm signal* has been initiated in

(a) a Group A *occupancy* having an *occupant load* more than 300,

(b) a Group B *occupancy*,

(c) a Group F, Division 1 *occupancy*,

(d) a *building* regulated by the provisions of Subsection 3.2.6., or

(e) a *building* containing *interconnected floor space* required to conform to Articles 3.2.8.3. to 3.2.8.11.

(2) If a fire alarm system is installed, an automatic sprinkler system shall be designed to notify the fire department, in conformance with Sentence (4), that a *waterflow switch* has been actuated.

(3) If a fire alarm system is required to be installed and a 2 stage system is provided, the system shall be designed to notify the fire department, in conformance with Sentence (4), that an *alert signal* has been initiated.

(4) Except as permitted by Sentence (5), signals to the fire department shall be by way of

(a) an independent central station conforming to NFPA-71, "Standard for the Installation, Maintenance, and Use of Signaling Systems for Central Station Service",

(b) a proprietary control centre conforming to Chapter 4 of NFPA-72, "Standard for the Installation, Maintenance, and Use of Protective Signaling Systems",

(c) a central station conforming to ULC/ORD-C693-1994, "Central Station Fire Protective Signaling Systems and Services", or

(d) the municipal fire alarm system.

(5) If the facilities referred to in Sentence (4) are not available in the municipality in which the *building* is to be built, an independent system is permitted to be used to transmit signals to the fire department.

(6) If a single stage fire alarm system or a local group of sprinklers has been installed and Sentence (1) does not require provision to transmit a signal to the fire department, a legible notice, that is not easily removed, shall be affixed to the wall near each manual pull station with wording that the fire department is to be notified in the event of a fire emergency and including the emergency telephone number for the municipality or the telephone number of the fire department.

3.2.4.8. Annunciator and Zone Indication

(1) Except as permitted in Sentences (3) to (5), an annunciator shall be installed in close proximity to a *building* entrance that faces a *street* or an access route for fire department vehicles that complies with Sentence 3.2.5.5.(1).

(2) Except as permitted by Sentence (6), the annunciator required by Sentence (1) shall have separate zone indication of the actuation of the alarm initiating devices in each

(a) *floor area* so that in a *building* that is not *sprinklered*, the area of coverage for each zone is neither more than

(i) one *storey*, nor

(ii) 2 000 m²,

(b) *floor area* so that in a *building* that is *sprinklered*, the area of coverage for each zone is neither more than

(i) one *storey*, nor

(ii) the system area limits as specified in NFPA 13, "Standard for the Installation of Sprinkler Systems",

(c) shaft required to be equipped with *smoke detectors*,

(d) air handling system required to be equipped with *smoke detectors*,

(e) *contained use area*,

(f) *impeded egress zone*,

(g) *fire compartment* required in Sentence 3.3.3.5.(2), and

(h) *fire compartment* required to be separated by vertical *fire separations* having a *fire-resistance rating* not less than 2 h, other than *dwelling units* described in Subsection 3.3.4.

(3) An annunciator need not be provided for a fire alarm system if not more than one zone indicator is required in Sentence (2).

(4) If an annunciator is not installed as part of a fire alarm system in conformance with Sentence (1), a visual and audible trouble signal device shall be provided inside the main entrance of the *building*.

(5) The requirements in Sentence (1) are waived in a *building*

(a) Reserved

(b) that has an aggregate area for all *storeys* of not more than 2 000 m², and

(c) that is not more than 3 *storeys* in *building height*.

(6) The area limits of Clause (2)(a) are waived for an interior undivided open space used as an arena, a rink or a swimming pool provided that other spaces in the *building* that are separated from the open space are individually zoned in accordance with the requirements of Sentence (2).

(7) Notwithstanding the requirements for an annunciator in this Article

(a) all fire alarm systems shall include a main control unit to which all signal and supervision circuits shall report, either directly or by means of transponders, and

- (b) each annunciator or trouble signal device shall be connected to the main control unit.

(8) Reserved

(9) In a *building* containing a *hotel* in which a trouble signal sounding device has a silencing switch, a trouble light shall be installed in

- (a) the main reception area serving the *hotel*, or
- (b) another continually-supervised location.

(10) In a nursing home, a remote audiovisual fire alarm trouble signal shall be located at the main nursing station.

3.2.4.9. Electrical Supervision

(1) Electrical supervision shall be provided for a fire alarm system.

(2) If a fire alarm system is installed in a *building*, an automatic sprinkler system shall be electrically supervised to indicate a supervisory signal on the *building* fire alarm system annunciator for each of the following:

- (a) movement of a valve handle that controls the supply of water to sprinklers,
- (b) loss of excess water pressure required to prevent false alarms in a wet pipe system,
- (c) loss of air pressure in a dry pipe system,
- (d) loss of air pressure in a pressure tank,
- (e) a significant change in water level in any water storage container used for fire fighting purposes,
- (f) loss of power to any automatically starting fire pump, and
- (g) a temperature approaching the freezing point in any dry pipe valve enclosure or water storage container used for fire fighting purposes.

3.2.4.10. Fire Detectors

(1) *Fire detectors* required by this Article shall be connected to the fire alarm system.

(2) Except as provided in Article 3.2.4.15., if a fire alarm system is required, *fire detectors* shall be installed in

- (a) storage rooms not within *dwelling units*,
- (b) service rooms not within *dwelling units*,
- (c) janitors' rooms,
- (d) rooms in which hazardous substances are to be used or stored,
- (e) elevator and dumbwaiter shafts,
- (f) a laundry room in a *building* of *residential occupancy*, but not one within a *dwelling unit*, and
- (g) *hazardous classrooms* and change rooms in elementary and secondary schools.

3.2.4.11. Smoke and Heat Detectors

(1) If a fire alarm system is required, *smoke detectors* shall be installed in

- (a) each sleeping room and each corridor serving as part of a *means of egress* from sleeping rooms in portions of a *building* classified as Group B *major occupancy*,
- (b) each room in a *contained use area* and corridors serving those rooms,
- (c) each corridor in portions of a *building* classified as Group A, Division 1 *major occupancy*,
- (d) each *public corridor* in portions of a *building* classified as Group C *major occupancy*,
- (e) each *exit* stair shaft, and
- (f) Reserved
- (g) each corridor serving classrooms in elementary and secondary schools.

(2) Except as provided in Article 3.2.4.15, if a fire alarm system is required, *heat detectors* shall be installed in

- (a) every room in portions of *buildings* classified as Group A, Division 1,
- (b) except in a *hotel*, in every *suite*, and every room not located within a *suite*, in portions of *buildings* classified as Group C *major occupancy* and more than 3 *storeys* in *building height*, and
- (c) in a *floor area* containing a *hotel*, in every room in a *suite* and in every room not located in a *suite* other than washrooms within a *suite*, saunas, refrigerated areas and swimming pools.

3.2.4.12. Prevention of Smoke Circulation

(1) If a fire alarm system is installed, an air handling system shall be designed to prevent the circulation of smoke upon a signal from a duct-type smoke detector if the air handling system

- (a) serves more than one *storey*,
- (b) serves more than one *suite* in a *storey*, or
- (c) serves more than one *fire compartment* required by Sentence 3.3.3.5.(2).

3.2.4.13. Vacuum Cleaning System Shutdown

(1) A central vacuum cleaning system in a *building* equipped with a fire alarm system shall be designed to shut down upon actuation of the fire alarm system.

3.2.4.14. Elevator Emergency Return

(1) Except as permitted by Sentence (3), in a *building* having elevators that serve *storeys* above the *first storey* and that are equipped with an automatic emergency recall feature, *smoke detectors* shall be installed in the elevator lobbies on the recall level so that when these *smoke detectors* are actuated, the elevators will automatically return directly to an alternate floor level.

(2) *Smoke detectors* required by Sentence (1) shall be designed as part of the *building* fire alarm system.

(3) The alternate floor recall feature required by Sentence (1) is not required if the *floor area* containing the recall level is *sprinklered*.

3.2.4.15. Sprinklers in Lieu of Fire Detectors

(1) *Fire detectors* required by Article 3.2.4.10. and *heat detectors* required by Sentence 3.2.4.11.(2) need not be provided within a *floor area* if the *floor area* is *sprinklered* and the sprinkler system is electrically supervised in conformance with Sentence 3.2.4.9.(2).

3.2.4.16. System Monitoring

(1) An automatic sprinkler system shall be equipped with waterflow detecting devices and, if an annunciator is required by Article 3.2.4.8., shall be installed so that each device serves

(a) not more than one *storey*, and

(b) an area on each *storey* that is not more than the system area limits as specified in NFPA 13, "Standard for the Installation of Sprinkler Systems".

(2) Waterflow detecting devices required by Sentence (1) shall be connected to initiate an *alert signal* or an *alarm signal* on the fire alarm system if a fire alarm is provided.

3.2.4.17. Manual Pull Stations

(1) Except as permitted by Sentences (2) and (3), if a fire alarm system is installed, a manual pull station shall be installed

(a) near the principal entrance to the *building*, and

(b) near every required *exit*.

(2) In a *building* that is *sprinklered*, a manual pull station is not required at an exterior egress doorway from a *suite* that does not lead to an interior shared *means of egress* in a *hotel* not more than 3 *storeys* in *building height*, provided each *suite* is served by an exterior *exit* facility leading directly to ground level.

(3) In a *building* that is *sprinklered*, a manual pull station is not required at an exterior egress doorway from a *dwelling unit* that does not lead to an interior shared *means of egress* in a *building* not more than 3 *storeys* in *building height* containing only *dwelling units*, provided each *dwelling unit* is served by an exterior *exit* facility leading directly to ground level.

(4) In a *building* referred to in Sentences (2) or (3), manual pull stations shall be installed near doorways leading from shared interior corridors to the exterior.

(5) In a *building* containing a *hotel*, a manual pull station shall be installed in the main reception area serving the *hotel*.

(6) Except as permitted by Sentence (3), in Group C apartment *buildings*, if a pull station is not installed on a *floor area* in accordance with Sentences (1) or (4)

(a) a manual pull station shall be installed in every *dwelling unit* in the *floor area* near each egress door leading from the *dwelling unit*,

(b) *smoke detectors* shall be installed in the *floor area* in *public corridors* and stairwells, and

(c) *fire detectors* shall be installed in the *floor area* in all common public areas and in rooms not located within *dwelling units*.

(7) In *floor areas* where the manual pull stations are located in *dwelling units*, a legible sign stating **FIRE ALARM PULL STATIONS LOCATED IN APARTMENT UNITS** shall be posted near every *exit* in a *public corridor*.

(8) Key switch activated pull stations are permitted in an *impeded egress zone* and a *contained use area* in Group B, Division 1 and Division 2 *occupancies*.

3.2.4.18. Alert and Alarm Signals

(1) In a 2 stage fire alarm system described in Sentence 3.2.4.4.(2), the same audible signal devices are permitted to be used to sound the *alert signals* and the *alarm signals*.

(2) If audible signal devices with voice reproduction capabilities are intended for paging and similar voice message use, other than during a fire emergency, they shall be installed so that *alert signals* and *alarm signals* take priority over all other signals.

(3) Audible signal devices forming part of a fire alarm or voice communication system shall not be used for playing music or background noise.

(4) In a *building* or portion thereof intended for use primarily by persons with hearing impairment, visual signal devices shall be installed in addition to audible signal devices.

(5) Visual signal devices are permitted to be installed in lieu of audible signal devices in the compartments referred to in Article 3.3.3.6.

3.2.4.19. Audibility of Alarm Systems

(1) Except as permitted in Sentence 3.2.4.18.(5), audible signal devices forming part of a fire alarm system shall be installed in a *building* so that *alert signals* and *alarm signals* are clearly audible throughout the *floor area* in which they are installed.

(2) The temporal pattern of an *alarm signal* shall conform to the temporal pattern defined in Clause 4.2 of International Standard ISO 8201, "Acoustics - Audible emergency evacuation signal".

(3) The signals from *smoke alarms* and the patterns of *alert signals* shall be sufficiently different from the signals or patterns of *alarm signals* that there is no possibility of confusion.

(4) Reserved

(5) The sound pressure level in a sleeping room from a fire alarm audible signal device shall be not less than 75 dBA in a *building* of *residential occupancy* when any intervening doors between the device and the sleeping room are closed.

(6) The sound pressure level from a fire alarm audible signal device in a *floor area* used for *occupancies* other than *residential occupancies* shall be not less than 10 dBA above the ambient noise level, but with a minimum value not less than 65 dBA.

(7) Fire alarm audible signal devices shall be supplemented by visual signal devices in any *floor area* in which

(a) the ambient noise level is more than 87 dBA, or

(b) the occupants of the *floor area*

(i) use ear protective devices,

(ii) are located within an audiometric booth, or

(iii) are located within sound insulated enclosures.

(8) Sentence (7) shall also apply in an *assembly occupancy* in which music and other sounds associated with performances could exceed 100 dBA.

(9) A fire alarm audible signal device located within a *dwelling unit* shall incorporate a means that enables the device to be silenced for a period of not more than 10 min, after which the device shall restore to normal operation.

(10) A fire alarm audible signal device located within a *dwelling unit* or a *suite of residential occupancy* shall be connected to the fire alarm system in a manner that disconnection of, or damage to, that device will not interfere with the ability of devices in other *dwelling units*, *public corridors*, or *suites* to sound an alarm.

(11) Reserved

(12) Fire alarm audible signal devices shall be installed in a *service space* referred to in Sentence 3.2.1.1.(7) and shall be connected to the fire alarm system.

3.2.4.20. Visual Signals

(1) Visual signal devices required by Sentences 3.2.4.18.(4) and 3.2.4.19.(7) and (8) shall be installed so that the signal from at least one device is visible throughout the *floor area* or portion thereof in which they are installed.

(2) In addition to the requirements for fire alarm and detection systems in this Subsection, visual signals from *smoke detectors* required in sleeping rooms of Group B *occupancy* shall be provided so that staff serving those rooms can easily identify the room or location of fire alarm initiation.

(3) Visual signal devices permitted by Sentence 3.2.4.18.(5) shall be installed so that the signal from not less than one device is visible throughout the compartment in which they are installed.

3.2.4.21. Smoke Alarms

(1) *Smoke alarms* conforming to CAN/ULC-S531-M, "Standard for Smoke-Alarms", shall be installed in each *dwelling unit* and, except for *care or detention occupancies* required to have a fire alarm system, in each sleeping room not within a *dwelling unit*.

(2) At least one *smoke alarm* shall be installed on each *storey* and *mezzanine* of a *dwelling unit*.

(3) On any *storey* of a *dwelling unit* containing sleeping rooms, a *smoke alarm* shall be installed in a location between the sleeping rooms and the remainder of the *storey*, and if the sleeping rooms are served by a hallway, the *smoke alarm* shall be located in the hallway.

(4) A *smoke alarm* shall be installed on or near the ceiling.

(5) A *smoke alarm* shall be installed with permanent connections to an electrical circuit and shall have no disconnect switches between the overcurrent device and the *smoke alarm*.

(6) If more than one *smoke alarm* is required in a *dwelling unit*, the *smoke alarms* shall be wired so that the actuation of one *smoke alarm* will cause all *smoke alarms* within the *dwelling unit* to sound.

(7) A *smoke alarm* required by Sentence (1) shall be installed in conformance with CAN/ULC-S553-M, "Standard for the Installation of Smoke-Alarms".

(8) A manually operated device is permitted to be incorporated within the circuitry of a *smoke alarm* installed in a *dwelling unit* so that it will silence the signal emitted by the *smoke alarm* for a period of not more than 10 min, after which the *smoke alarm* will reset and again sound the alarm if the level of smoke in the vicinity is sufficient to reactuate the *smoke alarm*.

3.2.4.22. Voice Communication Systems

(1) A voice communication system required by Subsection 3.2.6. shall consist of

(a) a 2-way communication system in each *floor area*, with connections to the central alarm and control facility and to the mechanical control centre, and

(b) loudspeakers operated from the central alarm and control facility which are designed and located so as to be audible and the messages intelligible in all parts of the *building*, except that this requirement does not apply to elevator cars.

(2) The voice communication system referred to in Sentence (1) shall include provision for silencing the *alarm signal* in a single stage fire alarm system when voice messages are being transmitted, but only after the *alarm signal* has sounded initially for not less than

(a) 30 s in Group B, Division 2 or 3 *major occupancy*, and

(b) 60 s in all other *occupancies*

(3) The voice communication system referred to in Sentence (1) shall include provision for silencing the *alert signal* and the *alarm signal* in a 2 stage fire alarm system when voice messages are being transmitted, but only after the *alert signal* has sounded initially for not less than

(a) 30 s in Group B, Division 2 or 3 *major occupancy*, or

(b) 60 s for all other *occupancies*.

(4) The voice communication system referred to in Clause (1)(b) shall be designed so that voice instructions can be transmitted selectively to any zone or zones while maintaining an *alert signal* or *alarm signal* to other zones in the *building*.

(5) The 2-way communication system referred to in Clause (1)(a) shall be installed so that emergency telephones are located in each *floor area* near *exit* stair shafts.

3.2.5. Provisions for Fire-fighting

3.2.5.1. Access to Above Grade Storeys

(1) Except for *storeys* below the *first storey*, direct access for fire-fighting shall be provided from the outdoors to every *storey* that is not *sprinklered* and whose floor level is less than 25 m above *grade*, by at least one unobstructed window or access panel for each 15 m of wall in each wall required to face a *street* by Subsection 3.2.2.

(2) An opening for access required by Sentence (1) shall

(a) have a sill no higher than 900 mm above the inside floor, and

(b) be not less than 1 100 mm high by not less than

(i) 550 mm wide for a *building* not designed for the storage or use of dangerous goods, or

(ii) 750 mm wide for a *building* designed for the storage or use of dangerous goods.

(3) Access panels above the *first storey* shall be readily openable from both inside and outside, or the opening shall be glazed with plain glass.

3.2.5.2. Access to Basements

(1) Direct access from at least one *street* shall be provided from the outdoors to each *basement*

(a) that is not *sprinklered*, and

(b) that has horizontal dimension more than 25 m.

(2) The access required by Sentence (1) is permitted to be provided by

(a) doors, windows or other means that provide an opening not less than 1 100 mm high and 550 mm wide, with a sill no higher than 900 mm above the inside floor, or

(b) an interior stairway immediately accessible from the outdoors.

3.2.5.3. Roof Access

(1) On a *building* more than 3 *storeys* in *building height* where the slope of the roof is less than 1 in 4, all main roof areas shall be provided with direct access from the *floor areas* immediately below, either by

(a) a stairway, or

(b) a hatch not less than 550 mm by 900 mm with a fixed ladder.

(2) Clearance and access around roof signs or other obstructions shall provide

(a) a passage not less than 900 mm wide by 1 800 mm high, clear of all obstructions except for necessary horizontal supports not more than 600 mm above the roof surface,

(i) around every roof sign, and

(ii) through every roof sign at locations not more than 15 m apart, and

(b) a clearance of not less than 1 200 mm between any portion of a roof sign and any opening in the exterior wall face or roof of the *building* in which it is erected.

3.2.5.4. Access Routes

(1) A *building* which is more than 3 *storeys* in *building height* or more than 600 m² in *building area* shall be provided with access routes for fire department vehicles

(a) to the principal entrance, and

(b) to each *building* face having access openings for fire-fighting as required by Articles 3.2.5.1. and 3.2.5.2.

3.2.5.5. Location of Access Routes

(1) Access routes required by Article 3.2.5.4. shall be located so that the principal entrance and every access opening required by Articles 3.2.5.1. and 3.2.5.2. are located not less than 3 m and not more than 15 m from the closest portion of the access route required for fire department use, measured horizontally from the face of the *building*.

(2) Access routes shall be provided to a *building* so that

(a) for a *building* provided with a fire department connection, a fire department pumper vehicle can be located adjacent to the hydrants referred to in Article 3.2.5.16.,

(b) for a *building* not provided with a fire department connection, a fire department pumper vehicle can be located so that the length of the access route from a hydrant to the vehicle plus the unobstructed path of travel for the firefighter from the vehicle to the *building* is not more than 90 m, and

(c) the unobstructed path of travel for the firefighter from the vehicle to the *building* is not more than 45 m.

(3) The unobstructed path of travel for the firefighter required by Sentence (2) from the vehicle to the *building* shall be measured from the vehicle to the fire department connection provided for the *building*, except that if no fire department connection is provided, the path of travel shall be measured to the principal entrance of the *building*.

(4) If a portion of a *building* is completely cut off from the remainder of the *building* so that there is no access to the remainder of the *building*, the access routes required by Sentence (2) shall be located so that the unobstructed path of travel from the vehicle to one entrance of each portion of the *building* is not more than 45 m.

3.2.5.6. Access Route Design

(1) A portion of a roadway or yard provided as a required access route for fire department use shall

(a) have a clear width not less than 6 m, unless it can be shown that lesser widths are satisfactory,

(b) have a centreline radius not less than 12 m,

(c) have an overhead clearance not less than 5 m,

(d) have a change of gradient not more than 1 in 12.5 over a minimum distance of 15 m,

(e) be designed to support the expected loads imposed by fire fighting equipment and be surfaced with concrete, asphalt or other material designed to permit accessibility under all climatic conditions,

(f) have turnaround facilities for any dead-end portion of the access route more than 90 m long, and

(g) be connected with a public thoroughfare.

3.2.5.7. Water Supply

(1) An adequate water supply for fire-fighting shall be provided for every *building*.

(2) Hydrants shall be located within 90 m horizontally of any portion of a *building* perimeter which is required to face a *street* in Subsection 3.2.2.

3.2.5.8. Reserved

3.2.5.9. Reserved

3.2.5.10. Reserved

3.2.5.11. Reserved

3.2.5.12. Reserved

3.2.5.13. Automatic Sprinkler Systems

(1) Except as permitted by Sentences (2), (3) and (4), an automatic sprinkler system shall be designed, constructed, installed and tested in

conformance with NFPA 13, "Standard for the Installation of Sprinkler Systems".

(2) Instead of the requirements of Sentence (1), NFPA 13R, "Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height", is permitted to be used for the design, construction, installation and testing of an automatic sprinkler system installed in a *building of residential occupancy* that is not more than 4 storeys in building height.

(3) Instead of the requirements of Sentence (1), NFPA 13D, "Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Mobile Homes", is permitted to be used for the design, construction, installation and testing of an automatic sprinkler system installed in a *building of residential occupancy* that contains not more than 2 dwelling units.

(4) If a *building* contains fewer than 9 sprinklers, the water supply for these sprinklers is permitted to be supplied from the domestic water system for the *building* provided the required flow for the sprinklers can be met by the domestic system.

(5) If a water supply serves both an automatic sprinkler system and a system serving other equipment, control valves shall be provided so that either system can be shut off independently.

(6) Notwithstanding the requirements of the standards referenced in Sentences (1), (2) and (3) for the installation of automatic sprinkler systems, sprinklers shall not be omitted in any room or closet in the storey immediately below a roof assembly if the *fire-resistance rating* of the roof assembly is waived as permitted by Article 3.2.2.17.

(7) Fast response sprinklers shall be installed in *care or detention occupancies* and in *sprinklered residential occupancies*.

(8) Sprinklers in elevator machine rooms shall have a temperature rating not less than that required for an intermediate temperature classification and shall be protected against physical damage.

3.2.5.14. Combustible Sprinkler Piping

(1) *Combustible* sprinkler piping shall be used only for wet systems in *residential occupancies* and other light hazard *occupancies*.

(2) *Combustible* sprinkler piping shall meet the requirements of ULC/ORD-199P-M, "Guide for the Investigation of Combustible Piping for Sprinkler Systems".

(3) *Combustible* sprinkler piping shall be separated from the area served by the sprinkler system and from any other *fire compartment* by ceilings, walls, or soffits consisting of, as a minimum

- (a) lath and plaster,
- (b) gypsum board not less than 9.5 mm thick,
- (c) plywood not less than 13 mm thick, or
- (d) a suspended membrane ceiling with
 - (i) steel suspension grids, and
 - (ii) lay-in panels or tiles having a mass not less than 1.7 kg/m².

(4) If *combustible* sprinkler piping is located above a ceiling, an opening through the ceiling that is not protected in conformance with Sentence (3) shall be located so that the distance between the edge of the opening and the nearest sprinkler is not more than 300 mm.

3.2.5.15. Sprinklered Service Space

(1) An automatic sprinkler system shall be installed in a *service space* referred to in Sentence 3.2.1.1.(7) if flooring for access within the *service space* is other than catwalks.

(2) The sprinkler system required by Sentence (1) shall be equipped with waterflow detecting devices, with each device serving not more than one *storey*.

(3) The waterflow detecting devices required by Sentence (2) shall be connected to the fire alarm system, to

- (a) initiate an *alert signal* in a 2 stage system or an *alarm signal* in a single stage system, and
- (b) indicate separately on the fire alarm system annunciator the actuation of each device.

(4) If a *building* is *sprinklered*, sprinkler protection need not be provided in the space below a raised floor in a *computer room*

- (a) if the optical fibre cables and electrical wires and cables in this space conform to the test requirements in Article 3.1.5.20.,
- (b) if the *building* is of *noncombustible construction* and other *combustible* components are limited to those permitted in Subsection 3.1.5.,
- (c) if this space is used to circulate conditioned air and the air handling system is designed to prevent the circulation of smoke upon a signal from a *smoke detector*,
- (d) if all of this space is easily accessible by providing access sections or panels in the raised floor, and
- (e) if the *computer room* is more than 2 000 m² and the annunciator has separate zone indicators of the actuation of *smoke detectors* located in this space so that the coverage for each zone is not more than 2 000 m².

(5) Where a room, chute or bin is required to be *sprinklered* as indicated in Sentence 3.3.4.3.(1), Article 3.6.2.6. and Sentence 3.6.3.3.(6), the sprinklers may be supplied with water from the fire standpipe system provided that

- (a) except for a chute, not more than 8 sprinkler heads are required to protect any room or bin based on a maximum coverage of 12 m² per sprinkler head,
- (b) the standpipe riser is
 - (i) not less than 6 in. in diameter, or
 - (ii) hydraulically designed to meet combined water supply as specified in Clause (c),
- (c) the water supply for a standpipe system, pumping capability and water storage facility, if required, is increased to supply 95 L/min for each sprinkler head over and above the requirements for the standpipe system up to maximum 760 L/min for sprinklers,
- (d) a waterflow detecting device shall be installed in the sprinkler main adjacent to the point of connection to the standpipe riser, and
- (e) the activation of each waterflow detecting device in Clause (d) shall be indicated separately on the fire alarm system annunciator.

3.2.5.16. Fire Department Connections

(1) The fire department connection for a standpipe system shall be located so that the distance from the fire department connection to a hydrant is not more than 45 m and is unobstructed.

(2) The fire department connection for an automatic sprinkler system shall be located so that the distance from the fire department connection to a hydrant is not more than 45 m and is unobstructed.

(3) The fire department connections required in Sentences (1) and (2) shall be

(a) located on the outside of a *building* adjacent to a *street* or an access route, not less than 300 mm and not more than 900 mm above ground level, and

(b) provided with two 65 mm hose connections with female swivel hose couplings.

3.2.5.17. Portable Fire Extinguishers

(1) Portable fire extinguishers shall be installed in all *buildings*, except within *dwelling units*, in conformance with the provisions of Part 6 of the Ontario Fire Code made under the Fire Marshals Act.

(2) In a Group B, Division 1 *major occupancy*, portable fire extinguishers are permitted to be located in secure areas, or in lockable cabinets provided

(a) identical keys for all cabinets are located at all supervisory or security stations, or

(b) electrical remote release devices are provided and are connected to an emergency power supply.

3.2.5.18. Protection from Freezing

(1) Equipment forming part of a fire protection system shall be protected from freezing if

(a) it could be adversely affected by freezing temperatures, and

(b) it is located in an unheated area.

3.2.5.19. Fire Pumps

(1) A fire pump having a rated net head pressure greater than 280 kPa shall be installed in accordance with the requirements of NFPA 20, "Standard for the Installation of Centrifugal Fire Pumps".

3.2.6. Additional Requirements for High Buildings**3.2.6.1. Application**

(1) This Subsection applies to a *building*

(a) of Group A, D, E or F *major occupancy* classification that is more than

(i) 36 m high, measured between *grade* and the floor level of the top *storey*, or

(ii) 18 m high, measured between *grade* and the floor level of the top *storey*, and in which the cumulative or total *occupant load* on or above any *storey* above *grade*, other than the first *storey*, divided by 1.8 times the width in metres of all *exit* stairs at that *storey*, exceeds 300,

(b) containing a Group B *major occupancy* in which the floor level of the highest *storey* of that *major occupancy* is more than 18 m above *grade*,

(c) containing a *floor area* or part of a *floor area* located above the third *storey* designed or intended as a Group B, Division 2 or 3 *occupancy*, and

(d) containing a Group C *major occupancy* whose floor level is more than 18 m above *grade*.

3.2.6.2. Limits to Smoke Movement

(1) Except as permitted in Sentence 3.2.6.6.(2), a *building* to which this Subsection applies shall be designed in accordance with Sentences (2) to (4) and Articles 3.2.6.3. to 3.2.6.7 to limit the danger to occupants and firefighters from exposure to smoke in a *building* fire.

(2) Except as provided in Articles 3.2.6.4. to 3.2.6.6., a *building* referred to in Sentence (1), shall be designed so that, during a period of 2 h after the start of a fire, all *floor areas* that are above the lowest *exit storey* will not contain more than 1% by volume of contaminated air from the fire floor, assuming an outdoor temperature equal to the January design temperature on a 2.5% basis determined in conformance with Subsection 2.5.1.

(3) Except as provided in Articles 3.2.6.4 and 3.2.6.6., a *building* referred to in Sentence (1), shall be designed so that during a period of 2 h after the start of a fire, the limit described in Sentence (2) on the movement of contaminated air into other *floor areas* is not exceeded in

(a) each *exit* stair serving *storeys* above the lowest *exit level*, and

(b) each *exit* stair serving *storeys* below the lowest *exit level*.

(4) Except as provided in Articles 3.2.6.4. and 3.2.6.6., a *building* referred to in Sentence (1), shall be designed so that during a period of 2 h after the start of a fire, the limit described in Sentence (2) on the movement of contaminated air into other *floor areas* is not exceeded in a shaft that contains an elevator for use by firefighters required by Article 3.2.6.9.

3.2.6.3. Areas of Refuge

(1) In a *building* of Group C *major occupancy* classification, the requirements of Sentence 3.2.6.2.(2) are waived in *buildings* where occupants above the first *storey* can enter and be safely accommodated in *floor areas* or parts of *floor areas* that are designated as areas of refuge on the plans and are identified as such in the *building*.

(2) Except as required in Sentence (3), the areas of refuge referred to in Sentence (1) shall be located on every fifth *storey*.

(3) The areas of refuge referred to in Sentence (1) shall be located on every *storey* if the *building* is more than 75 m high, measured between *grade* and the floor level of the top *storey*.

(4) The areas of refuge referred to in Sentence (1) shall

(a) provide not less than 0.5 m² of floor space per ambulatory occupant and 1.5 m² of floor space per non-ambulatory occupant,

(b) have access corridors and doors leading to each designated part of a *floor area* on the same *storey* sufficient to provide 3.67 mm of width for every person who may have to use these passages to reach the designated part of a *floor area*,

(c) have access stairs from intervening *storeys* leading to each designated part of a *floor area* sufficient to provide 5.5 mm of width for every person who may have to use these stairs to reach the designated part of a *floor area*, and

- (d) not contain more than 1% by volume of contaminated air from the fire floor during a period of 2 h after the start of a fire, assuming an outdoor temperature equal to the January design temperature on a 2.5% basis determined in conformance with Subsection 2.5.1.

3.2.6.4. Sprinklered Buildings

(1) The requirements of Sentences 3.2.6.2.(2) and (4), and Clause 3.2.6.2.(3)(a) are waived when a *building* is *sprinklered*, and

- (a) the sprinkler system is equipped with a water flow and supervisory signal system that will
 - (i) transmit automatically a waterflow signal directly to the fire department, or through an independent central station,
 - (ii) transmit automatically other supervisory signals to a proprietary control centre or to an independent central station, and
 - (iii) actuate a signal at the central alarm and control facility described in Article 3.2.6.12.,
- (b) each stairway that serves *storeys* above the lowest *exit level* is vented to the outdoors at or near the bottom of the stair shaft,
- (c) measures are taken to limit movement of smoke from a fire in a *floor area* below the lowest *exit storey* into upper *storeys*, and
- (d) except for exhaust fans in kitchens, washrooms and bathrooms in *dwelling units*, and except for fans used for smoke venting in Article 3.2.6.10., air moving fans in a system that serves more than 2 *storeys* shall be designed and installed so that in the event of a fire these fans can be stopped by means of a manually operated switch at the central alarm and control facility.

3.2.6.5. Exception for Lower Buildings

(1) The requirements of Sentence 3.2.6.2.(2) are waived in a *building* of Group C *major occupancy* classification where

- (a) the *building* is not more than 75 m high measured between *grade* and the floor level of the top *storey*, and
- (b) the number of occupants of *storeys* above *grade* is not more than 3.6 times the area in square metres of treads and landings in the *exit* stairs serving these *storeys*.

3.2.6.6. Residential Buildings

(1) The requirements of Sentences 3.2.6.2.(2) and (4) and Clause 3.2.6.2.(3)(a) are waived in a *building* of Group C *major occupancy* classification

- (a) where each *suite* above *grade* has direct access to an exterior balcony that
 - (i) is not less than 1 500 mm deep from the outside face of the exterior wall to the inside edge of the balcony, and
 - (ii) provides not less than 0.5 m² of balcony space for each occupant of the *suite*,
- (b) where each stairway that serves *storeys* above the lowest *exit level* is vented to the outdoors at or near the bottom of the stair shaft,

- (c) where measures are taken to limit movement of smoke from a fire in a *floor area* below the lowest *exit storey* into upper *storeys*, and

- (d) where, except for exhaust fans in kitchens, washrooms and bathrooms in *dwelling units*, air moving fans are designed and installed so that in the event of a fire such fans can be stopped by means of a manually operated switch at the central alarm and control facility where the system serves more than 2 *storeys*.

(2) The requirements of Sentences 3.2.6.2.(2) and (3) are waived in a Group C *major occupancy* apartment *building*.

3.2.6.7. Connected Buildings

(1) If a *building* described in Sentence 3.2.6.1.(1) is connected to any other *building*, measures shall be taken to limit movement of contaminated air from one *building* into another during a fire.

3.2.6.8. Emergency Operation of Elevators

(1) Manual emergency recall shall be provided for all elevators serving *storeys* above the *first storey*.

(2) Key-operated switches for emergency recall described by Sentence (1) shall be provided in a conspicuous location at

- (a) each elevator lobby on the recall level, and
- (b) the central alarm and control facility required in Article 3.2.6.12.

(3) In-car emergency service switches shall be provided in all elevator cars.

(4) Keys to operate the switches required by Sentences (2) and (3) shall be

- (a) provided in a suitably identified box conspicuously located on the outside of an elevator hoistway near the central alarm and control facility required by Article 3.2.6.12., and

- (b) at the central alarm and control facility.

(5) Automatic emergency recall operation shall be provided for all elevators serving *storeys* above the *first storey* in unsprinklered *buildings*.

(6) The automatic emergency recall feature in Sentence (5) shall be actuated by

- (a) *smoke detectors* installed in each elevator lobby on each *storey*, or
- (b) the *building* fire alarm system.

(7) *Smoke detectors* in Sentence (6) shall be designed as part of the *building* fire alarm system.

3.2.6.9. Elevator for Use by Firefighters

(1) At least one elevator shall be provided for use by firefighters in conformance with Sentences (2) to (6).

(2) The elevator referred to in Sentence (1) shall have a usable platform area not less than 2.2 m² and shall be capable of carrying a load of 900 kg to the top floor that it serves from a landing on the *storey* containing the entrance for firefighter access referred to in Articles 3.2.5.4. and 3.2.5.5. within 1 min.

(3) Except when Measure K of the Supplementary Guidelines is used, each elevator for use by firefighters shall

(a) be provided with a *closure* at each shaft opening so that the interlock mechanism remains mechanically engaged and electrical continuity is maintained in the interlock circuits and associated wiring is operational for a period of not less than 1 h when the assembly is subjected to the standard fire exposure described in CAN4-S104-M, "Standard Method for Fire Tests of Door Assemblies",

(b) be protected with a vestibule containing no *occupancy* and separated from the remainder of the *floor area* by a *fire separation* having a *fire-resistance rating* not less than 45 min, or

(c) be protected with a corridor containing no *occupancy* and separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(4) Except as permitted in Sentence (5), an elevator referred to in Sentence (1) shall be capable of providing transportation from the *storey* containing the entrance for firefighter access referred to in Articles 3.2.5.4. and 3.2.5.5. to every floor that is above *grade* in the *building* and that is normally served by the elevator system.

(5) If it is necessary to change elevators to reach any floor referred to in Sentence (4), the system shall be designed so that not more than one change of elevator is required when travelling to any floor in the *building* from the *storey* containing the entrance for firefighter access referred to in Articles 3.2.5.4. and 3.2.5.5.

(6) Electrical conductors for the operation of the elevator referred to in Sentence (1) shall be

(a) installed in *service spaces* conforming to Section 3.6. that do not contain other *combustible* material, or

(b) protected against exposure to fire from the service entrance of the emergency power supply, or the normal service entrance of the normal power supply, to the equipment served, to ensure operation for a period of 1 h when subjected to the standard fire exposure described in CAN4-S101-M, "Standard Methods of Fire Endurance Tests of Building Construction and Materials".

3.2.6.10. Venting to Aid Fire-fighting

(1) Means of venting each *floor area* to the outdoors shall be provided by windows, wall panels or smoke shafts, except that in a *sprinklered floor area*, the *floor area* is permitted to be vented by the *building* exhaust system.

(2) Venting described in Sentence (1) shall conform to the requirements in the Supplementary Guidelines.

(3) Fixed glass windows shall not be used for the venting required by Sentence (1) if the breaking of the windows could endanger pedestrians below.

(4) Openable windows used for the venting required by Sentence (1) shall be permanently marked so that they are easily identifiable.

(5) Elevator hoistways shall not be designed for the venting required by Sentence (1).

3.2.6.11. Reserved

3.2.6.12. Central Alarm and Control Facility

(1) A central alarm and control facility shall be provided on the *storey* containing the entrance for firefighter access referred to in Articles 3.2.5.4. and 3.2.5.5. in a location that

(a) is readily accessible to firefighters entering the *building*, and

(b) takes into account the effect of background noise likely to occur under fire emergency conditions, so that the facility can properly perform its required function under such conditions.

(2) The central alarm and control facility required in Sentence (1) shall include

(a) means to control the voice communication system required by Article 3.2.6.13., so that messages can be sent to

(i) all loudspeakers simultaneously,

(ii) to individual *floor areas*, and

(iii) *exit* stairwells,

(b) means to indicate audibly and visually *alert signals* and *alarm signals* and a switch to

(i) silence the audible portion of these signals, and

(ii) indicate visually that the audible portion has been silenced,

(c) means to indicate visually that elevators are on emergency recall,

(d) an annunciator conforming to Article 3.2.4.8.,

(e) means to transmit *alert signals* and *alarm signals* to the fire department in conformance with Article 3.2.4.7.,

(f) means to release hold-open devices on doors to vestibules,

(g) means to manually actuate *alarm signals* in the *building* selectively to any zone or zones,

(h) means to silence the *alarm signals* referred to in Clause (g) in conformance with Sentences 3.2.4.22.(2) and (3),

(i) means, as appropriate to the measure for fire safety provided in the *building*, to

(i) actuate auxiliary equipment, or

(ii) communicate with a continually staffed auxiliary equipment control centre,

(j) means to communicate with telephones in elevator cars, separate from connections to firefighters' telephones, if elevator cars are required by the Elevating Devices Act to be equipped with a telephone,

(k) means to indicate visually, individual sprinkler system waterflow signals,

(l) means to indicate audibly and visually, sprinkler system supervisory signals,

(m) a switch to silence the audible portion of a supervisory signal, and

- (n) visual indication that the audible portion of a supervisory signal has been silenced.

3.2.6.13. Voice Communication System

(1) A voice communication system or systems conforming to Article 3.2.4.22. shall be provided in a *building* if

- (a) the floor of the top *storey*, is more than 36 m above *grade*, or
- (b) a *floor area* or part of a *floor area* located above the third *storey* is designed or intended for use as a Group B, Division 2 or 3 *occupancy*.

3.2.6.14. Protection of Electrical Conductors

(1) Electrical conductors which supply power to emergency equipment described in Articles 3.2.6.2. to 3.2.6.8. and 3.2.6.10 to 3.2.6.13. and to the mechanical air supply required by Clause 3.3.3.6.(1)(b), shall be protected against exposure to fire in accordance with Sentence (4) and the protection shall extend from the main emergency power to

- (a) the equipment served,
- (b) the distribution equipment supplying power to the equipment served, where both are in the same room, or
- (c) the emergency equipment necessary to maintain the air supply required in Clause 3.3.3.6.(1)(b).

(2) Where a fire alarm transponder is connected to, but located in a different room than, the central processing unit or other transponder, all wiring between the transponder and the central processing unit or the other transponder shall be protected against exposure to fire in accordance with Sentence (4).

(3) Where a panelboard supplies power to emergency lighting required by Article 3.2.3.7., the supply conductors to the panelboard shall be protected against exposure to fire in accordance with Sentence (4).

(4) To ensure continued operation for a period not less than that required by Subsection 3.2.7., the electrical conductors described in Sentences (1), (2) and (3)

- (a) shall be protected against fire exposure by a *fire separation* having a *fire-resistance rating*, or
- (b) shall meet the fire endurance tests when tested in accordance with ULC-S101, "Standard Methods of Fire Endurance Tests of Building Construction and Materials".

(5) Every fire alarm system control unit and transponder shall be installed in an electrical *service room* which does not contain other *combustible material* and which is separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

3.2.6.15. Testing

(1) The systems for control of smoke movement and mechanical venting required by Articles 3.2.6.2. and 3.2.6.10. shall be tested to ensure satisfactory operation in accordance with the procedures described in the Supplementary Guidelines.

3.2.7. Lighting and Emergency Power Systems

3.2.7.1. Minimum Lighting Requirements

(1) An *exit*, a *public corridor*, a corridor providing *access to exit* for the public, a corridor serving patients or residents in a Group B, Division 2 or Division 3 *occupancy*, a corridor serving classrooms, an electrical equipment room, a transformer vault and a hoistway pit shall be equipped to provide illumination to an average level not less than 50 lx at floor or tread level and at angles and intersections at changes of level where there are stairs or ramps.

(2) Rooms and spaces used by the public shall be illuminated as described in Article 9.34.2.7.

(3) Lighting outlets in a *building of residential occupancy* shall be provided in conformance with Subsection 9.34.2.

(4) Elevator machine rooms shall be equipped to provide illumination to an average level of not less than 100 lx at floor level.

(5) Every place of assembly intended for the viewing of motion pictures or the performing arts, shall be equipped to provide an average level of illumination at floor level in the aisles of not less than 2 lx during the viewing.

(6) Every area where food is intended to be processed, prepared or manufactured and where equipment or utensils are intended to be cleaned shall be equipped to provide illumination to a level of not less than 500 lx measured at the floor level.

(7) Every storage room, dressing room, sanitary facility, service area and corridor serving the areas in Sentence (6) shall be equipped to provide illumination to a level of not less than 300 lx measured at the floor level.

3.2.7.2. Recessed Lighting Fixtures

(1) A recessed lighting fixture shall not be located in an insulated ceiling unless the fixture is designed for this type of installation.

3.2.7.3. Emergency Lighting

(1) Emergency lighting shall be provided to an average level of illumination not less than 10 lx at floor or tread level in

- (a) *exits*,
- (b) *Reserved*
- (c) corridors used by the public,
- (d) corridors serving patients' or residents' sleeping rooms in a Group B, Division 2 or Division 3 *occupancy*,
- (e) corridors serving classrooms,
- (f) *underground walkways*,
- (g) *public corridors*,
- (h) *floor areas* or parts thereof where the public may congregate in
 - (i) Group A, Division 1 *occupancies*, or
 - (ii) Group A, Division 2 and 3 *occupancies* having an *occupant load* of 60 or more,
- (i) principal routes providing *access to exit* in a *floor area* that is not subdivided into rooms or *suites* of rooms served by corridors in

a *business and personal services occupancy*, a *mercantile occupancy* or an *industrial occupancy*, and

- (j) internal corridors or aisles serving as principal routes to *exits* in a *business and personal services occupancy*, a *mercantile occupancy* or an *industrial occupancy* that is subdivided into rooms or *suites* of rooms, and is not served by a *public corridor*.

(2) Emergency lighting to provide an average level of illumination of not less than 10 lx at floor or catwalk level shall be included in a *service space* referred to in Sentence 3.2.1.1.(7).

(3) The minimum value of the illumination required by Sentences (1) and (2) shall be not less than 1 lx.

3.2.7.4. Emergency Power for Lighting

(1) An emergency power supply shall be

- (a) provided to maintain the emergency lighting required by this Subsection from a power source such as batteries or generators that will continue to supply power in the event that the regular power supply to the *building* is interrupted, and

- (b) so designed and installed that upon failure of the regular power it will assume the electrical load automatically for a period of

(i) 2 h for a *building* within the scope of Subsection 3.2.6.,

(ii) 1 h for a *building* of Group B *major occupancy* classification that is not within the scope of Subsection 3.2.6., and

(iii) 30 min for a *building* of any other *occupancy*.

(2) If self-contained emergency lighting units are used, they shall conform to CSA C22.2 No. 141-M, "Unit Equipment for Emergency Lighting".

3.2.7.5. Emergency Power Supply Installation

(1) Except as required by Articles 3.2.7.6. and 3.2.7.7., an emergency electrical power system shall be installed in conformance with CAN/CSA-C282-M, "Emergency Electrical Power Supply for Buildings".

3.2.7.6. Emergency Power for Hospitals

(1) Except as required by Article 3.2.7.7., an emergency electrical power system for emergency equipment required by this Part for hospitals shall be installed in conformance with CAN/CSA-Z32.4-M, "Essential Electrical Systems for Hospitals".

3.2.7.7. Fuel Supply Shut-off Valves and Exhaust Pipes

(1) If a liquid or gas fuel-fired engine or turbine for an emergency electric power supply is dependent on a fuel supply from outside the *building*, the fuel supply shall be provided with a suitably-identified separate shut-off valve outside the *building*.

(2) Where pipes for exhaust gases from emergency power systems penetrate required *fire separations*, they shall be enclosed in a separate *service space* having a *fire-resistance rating* equal to that of the penetrated floor assembly, but not less than 45 min.

3.2.7.8. Emergency Power for Fire Alarm Systems

(1) An emergency power supply conforming to Sentences (2), (3) and (4) shall be provided for fire alarm systems.

(2) The emergency power supply required by Sentence (1) shall be supplied from

(a) a generator,

(b) batteries, or

(c) a combination thereof.

(3) The emergency power supply required by Sentence (1) shall be capable of providing

(a) supervisory power for not less than 24 h, and

(b) immediately following, emergency power under full load for not less than

(i) 2 h for a *building* within the scope of Subsection 3.2.6.,

(ii) 1 h for a *building* classified as Group B *major occupancy* that is not within the scope of Subsection 3.2.6.,

(iii) 5 min for a *building* not required to be equipped with an annunciator, and

(iv) 30 min for any other *building*.

(4) The emergency power supply required by Sentence (1) shall be designed so that there will be automatic transfer to emergency power in the event of a failure of the normal power source.

(5) An emergency power supply shall be provided for the voice communication system required by Article 3.2.6.13.

(6) The emergency power supply required by Sentence (5) for the voice communication system shall be capable of

(a) full operation immediately upon the failure of the normal source of power, and

(b) maintaining operation of the system for not less than 2 h.

(7) If the emergency power supply required by Sentence (5) is provided by batteries, the batteries shall be sized to provide the total energy consumed by the maximum possible electrical supervision current plus the trouble signal current for a period of 24 h followed by 30 min of continuous voice communication.

3.2.7.9. Emergency Power for Building Services

(1) An emergency power supply capable of operating under a full load for not less than 2 h shall be provided by an emergency generator for

(a) every elevator serving *storeys* above the *first storey* in a *building* that is more than 36 m high measured between *grade* and the floor level of the top *storey* and every elevator for firefighters in conformance with Sentence (2),

(b) water supply for fire-fighting in conformance with Article 3.2.5.7., if the supply is dependent on electrical power supplied to the *building*, and the *building* is within the scope of Subsection 3.2.6.,

(c) fans and other electrical equipment that are installed to maintain the air quality specified in Article 3.2.6.2., and

(d) fans required for venting by Article 3.2.6.10.

(2) Except as permitted by Sentence (3), the emergency power supply for elevators required by Clause (1)(a) shall be capable of

operating all elevators for firefighters plus one additional elevator simultaneously.

(3) Sentence (2) does not apply if the time to recall all elevators under emergency power supply is not more than 5 min, each from its most remote storey to

(a) the storey containing the entrance for firefighter access referred to in Articles 3.2.5.4 and 3.2.5.5., or

(b) to a transfer lobby.

(4) Except as provided by Sentence (5), an emergency power supply capable of operating under a full load for not less than 30 min shall be provided by emergency generator for water supply for fire-fighting in conformance with Article 3.2.5.7., if the supply is dependent on electrical power supplied to the building, and the building is not within the scope of Subsection 3.2.6.

(5) Sentence (4) does not apply to the water supply for a standpipe system.

3.2.8. Mezzanines and Openings through Floor Assemblies

3.2.8.1. Application

(1) Except as permitted by Article 3.2.8.2. and Sentence 3.3.4.2.(3), the portions of a floor area or a mezzanine that do not terminate at an exterior wall, a fire wall or a vertical shaft shall

(a) terminate at a vertical fire separation having a fire-resistance rating not less than that required for the floor assembly and extending from the floor assembly to the underside of the floor or roof assembly above, or

(b) be protected in conformance with the requirements of Articles 3.2.8.3. to 3.2.8.11.

(2) The penetration of a floor assembly by an exit or a vertical service space shall conform to the requirements of Sections 3.4., 3.5. and 3.6.

(3) A floor area containing sleeping rooms in a building of Group B, Division 2 or 3 major occupancy shall not be constructed as part of an interconnected floor space.

(4) Except as permitted in Sentence (5), an elementary or secondary school shall not

(a) contain an interconnected floor space, or

(b) be located in an interconnected floor space.

(5) An interconnected floor space is permitted in an elementary or secondary school provided

(a) the interconnected floor space consists of the first storey, and the storey next above or below it, but not both,

(b) the interconnected floor space is sprinklered,

(c) the portions of the upper floor area that do not terminate at an exterior wall, a fire wall or a vertical shaft shall terminate at a vertical fire separation extending from the floor assembly to the underside of the floor or roof assembly above,

(d) except as provided in Clause (e), the fire separation required in Clause (c) need not have a fire-resistance rating,

(e) where a corridor is located immediately adjacent to the fire separation required in Clause (c), the fire separation shall have a fire-resistance rating of not less than 30 min, and

(f) where a portion of a floor area is not within the interconnected floor space, the required access to exit from this portion of the floor area shall not lead through the interconnected floor space.

3.2.8.2. Exceptions to Special Protection

(1) A mezzanine need not terminate at a vertical fire separation nor be protected in conformance with the requirements of Articles 3.2.8.3. to 3.2.8.11. provided the mezzanine

(a) serves a Group A, Division 1 major occupancy,

(b) serves a Group A, Division 3 major occupancy in a building not more than 2 storeys in building height, or

(c) is not considered as a storey in Sentences 3.2.1.1.(3) or 3.2.1.1.(5) in calculating building height provided

(i) every point on the mezzanine is within 25 m of a point or points on the mezzanine perimeter from which, in the aggregate, an occupant may view 60% of the area of the room or storey in which the mezzanine is located, and

(ii) the mezzanine does not contain a Group B occupancy,

(d) is not considered a storey in Sentence 3.2.1.1.(4) in calculating building height provided the mezzanine is not more than 500 m² in area and does not contain a Group B occupancy, or

(e) is not considered a storey in calculating building height in Sentence 3.2.1.1.(8).

(2) Except for floors referred to in Sentence 3.1.10.3.(1) and Article 3.2.1.2., openings through a horizontal fire separation for vehicular ramps in a storage garage are not required to be protected with closures and need not conform to this Subsection.

(3) If a closure in an opening in a fire separation would disrupt the nature of a manufacturing process, such as a continuous flow of material from storey to storey, the closure for the opening is permitted to be omitted provided precautions are taken to offset the resulting hazard.

(4) An interconnected floor space in a Group B, Division 1 occupancy need not conform to the requirements of Articles 3.2.8.3. to 3.2.8.11. provided the interconnected floor space does not interconnect more than 2 adjacent storeys.

(5) Except as permitted by Sentence (6), openings for stairways, escalators and inclined moving walks need not conform to the requirements in Articles 3.2.8.3. to 3.2.3.11. provided

(a) the opening for each stairway, escalator or walk does not exceed 10 m²,

(b) the building is sprinklered throughout, and

(c) the interconnected floor space contains only Group A, Division 1, 2 or 3, Group D or Group E occupancies.

(6) An interconnected floor space need not conform to the requirements of Articles 3.2.8.3. to 3.2.8.11. provided

(a) the interconnected floor space consists of the first storey and the storey next above or below it, but not both,

(b) the interconnected floor space is sprinklered, and

- (c) the *interconnected floor space* contains only Group A, Division 1, 2 or 3, Group D, Group E, or Group F, Division 3 *occupancies*.

3.2.8.3. Configuration

(1) In *buildings* constructed in conformance with Articles 3.2.8.4. to 3.2.8.11., the *unprotected openings* through floor assemblies in an *interconnected floor space* shall be of sufficient size and shall be positioned relative to each other so as to be capable of containing, within the full height of the *interconnected floor space*, a cylinder conforming to Sentence (2).

(2) The cylinder referred to in Sentence (1) shall have a cross-section that, where taken at a right angle to the longitudinal axis of such cylinder, is

- (a) a circle at least 9 m in diameter, or
- (b) an ellipse at least 7 m wide along the minor axis and at least 65 m² in area.

3.2.8.4. Exits

(1) A *building* that is more than 18 m in height, measured between *grade* and the floor level of the top *storey*, and that contains an *interconnected floor space*, shall be designed to limit the passage of smoke from a fire into *exit* stairshafts opening into an *interconnected floor space* so that during a 2 h period after the start of fire, such stairshafts will not contain more than 1% by volume of contaminated air from the fire floor, assuming an outdoor temperature equal to the January design temperature on a 2.5% basis.

(2) Where a *building* containing an *interconnected floor space* is more than 75 m in height, measured between *grade* and the floor level of the top *storey*, the *exit* stairshaft protection required in Sentence (1) shall be accomplished by the provision, between each *floor area* and each *exit* stairshaft, of a vestibule provided with a mechanical air supply or with a vent opening to the outdoors.

(3) Where a vestibule protecting an *exit* stairshaft is incorporated into the design of the *building* to meet the requirements of Sentences (1) or (2), such vestibule shall

- (a) be designed so that each doorway for a door opening into the vestibule is located at least 1 800 mm from a door or doors opening outward from the vestibule,
- (b) be separated from the remainder of the *floor area* by a *fire separation* having a *fire-resistance rating* at least equal to that required for the *exit* which it serves except that the *fire-resistance rating* of a *fire separation* between the vestibule and a *public corridor* need not exceed 45 min, and
- (c) not have a door or doors opening into more than one *exit* stairshaft.

(4) Except where *exits* serving the *floor area* are at ground level, the increased travel distance to *exits* permitted by Clause 3.4.2.5.(1)(c) shall not apply to a *floor area* within an *interconnected floor space*.

(5) Where a portion of a *floor area* is not within an *interconnected floor space*, required *access to exit* from such portion of a *floor area* shall not lead through an *interconnected floor space*.

(6) Except as provided in Sentences (7) and (8), portions of an *interconnected floor space* that have floor levels more than 18 m above *grade* shall be served by *exits* that provide at least 0.3 m² of area of treads, landings and floor surface for each occupant of such portions of an *interconnected floor space*.

(7) The requirements of Sentence (6) need not be applied where a *floor area* that is a portion of an *interconnected floor space* and that has a floor level more than 18 m above *grade* is separated from the remainder of the *interconnected floor space* by a *fire separation* having a *fire-resistance rating* of at least 1 h, except that no *fire-resistance rating* is required for such *fire separation* where all of the *major occupancies* contained within the *interconnected floor space* may be classified as light hazard *occupancies* in conformance with Appendix A of NFPA 13 "Standard for the Installation of Sprinkler Systems".

(8) The requirements of Sentence (6) need not be applied where the *exit* stairs that serve *interconnected floor spaces* are designed so that the required width of each stair is cumulative.

3.2.8.5. Elevators

(1) Except as provided in Sentence (2), where an elevator shaft opens into an *interconnected floor space* and into *storeys* that are above such space and that have floor levels more than 18 m above *grade*, either the elevator doors opening into the *interconnected floor space* or the elevator doors opening into the *storeys* above the *interconnected floor space* shall be protected by vestibules that

- (a) are designed to restrict the passage of contaminated air to the limit described in Sentence 3.2.8.4.(1), and
- (b) conform to the requirements of Sentence 3.2.8.4.(3).

(2) Where elevator doors opening into an *interconnected floor space* are protected by vestibules in conformance with Sentence (1), the elevator doors opening into the lowest *storey* of the *interconnected floor space* need not be protected by such vestibules.

3.2.8.6. Group B Sleeping Rooms

(1) Openings provided for access between an *interconnected floor space* and a *building* or a portion of a *building* containing Group B *major occupancy* sleeping rooms shall be provided with vestibules that are provided with a mechanical air supply and that are designed

- (a) to restrict the passage of smoke from the *interconnected floor space* into the area containing sleeping rooms in accordance with the limits described in Sentence 3.2.8.4.(1), and
- (b) in conformance with Clause 3.2.8.4.(3)(a).

3.2.8.7. Sprinklers

(1) In a *building* containing an *interconnected floor space*, *storeys* that are wholly or partially within an *interconnected floor space* and all *storeys* below an *interconnected floor space* shall be *sprinklered*.

(2) In a *building* containing an *interconnected floor space*

- (a) waterflow alarm signals from sprinkler systems shall be transmitted to the fire department in conformance with Sentence 3.2.4.7.(4), and
- (b) sprinkler systems shall be electrically supervised as required in Sentence 3.2.4.9.(2).

3.2.8.8. Fire Alarm and Detection System

(1) A *building* containing an *interconnected floor space* shall be provided with

- (a) a fire alarm system and electrically supervised annunciator conforming to Subsection 3.2.4.,
- (b) a system of *smoke detectors* located

- (i) on the ceiling of each *storey* in the vicinity of the openings through floor assemblies described in Article 3.2.8.3., except within dwelling units, *heat detectors* may be installed instead of *smoke detectors*, and
- (ii) as required for the activation of the smoke control system described in Sentences (5), (6) and (7) of Article 3.2.8.9., and
- (c) facilities for transmitting a signal to the fire department in conformance with Article 3.2.4.7.

3.2.8.9. Smoke Control

(1) A smoke control system conforming to Sentences (2) to (8) shall be designed to control the movement of smoke within a *building* containing an *interconnected floor space*.

(2) The design of the smoke control system shall assume an outdoor temperature equal to the January design temperature on a 2.5% basis.

(3) Upon activation of the sprinkler system or automatic detection of smoke by at least two *smoke detectors* in a single zone within an *interconnected floor space*, the system shall

- (a) stop air moving fans which provide for the normal exhausting or re-circulating of air in an *interconnected floor space*,
- (b) activate *exit* stairshaft protection required in Article 3.2.8.4.,
- (c) activate elevator protection required in Article 3.2.8.5., and
- (d) activate the vestibule air supply required in Sentence 3.2.8.6.(1).

(4) A *building* containing an *interconnected floor space* may be designed so that, in the event of a fire arising in a *floor area* or part of a *floor area* within the *interconnected floor space*, automatic detection of such fire will activate air handling equipment that

- (a) extracts air directly from such *floor area* or part of a *floor area* at the rate of at least 6 air changes per hour, and
- (b) supplies air in sufficient quantities and at appropriate locations to prevent smoke from passing out of such *floor area* into other portions of the *interconnected floor space*.

(5) For purposes of Sentences (6) and (7), the volume of an *interconnected floor space* need not include the aggregate volume of those *floor areas* or portions of *floor areas* designed to have zoned air extraction in accordance with Sentence (4).

(6) A mechanical exhaust shall be provided to remove air at the top of an *interconnected floor space* at the rate of at least 6 air changes per hour, except that where the volume of the *interconnected floor space* exceeds 17 000 m³, only 4 air changes per hour need be provided.

(7) Except where zoned mechanical exhaust described in Sentence (4) has been activated, upon automatic detection of smoke within the volume of the *interconnected floor space*, the mechanical exhaust described in Sentence (6) shall be automatically activated and supply air shall be provided in sufficient quantity and at appropriate locations to allow a consistent rate of removal of smoke throughout the volume of the *interconnected floor space*.

(8) Overriding manual controls for the smoke control system shall be provided for fire department use at an acceptable location in the vicinity of the fire alarm annunciator.

3.2.8.10. Emergency Power Supply

(1) In a *building* that is more than 18 m in height, measured between *grade* and the floor level of the top *storey*, an emergency power supply capable of operating under a full load for at least 2 h shall be provided by an emergency generator or by a separate service not supplied by the same substation as the primary source for fans required for smoke control purposes in Articles 3.2.8.4., 3.2.8.5., 3.2.8.6. and 3.2.8.9.

3.2.8.11. Testing

(1) The systems for smoke control and venting described in Articles 3.2.8.4., 3.2.8.5., 3.2.8.6. and 3.2.8.9. shall be tested to ensure satisfactory operation.

3.2.9. Standpipe Systems

3.2.9.1. Where Required

(1) Except as provided in Sentences (4) to (7), a standpipe system shall be installed in every *building* that

- (a) is more than 3 *storeys* in *building height*,
- (b) is more than 14 m high measured between *grade* and the ceiling of the top *storey*, or
- (c) is not more than 14 m high measured between *grade* and the ceiling of the top *storey* but has a *building area* exceeding the area shown in Table 3.2.9.1. for the applicable *building height* if the *building* is not *sprinklered*.

(2) A standpipe system shall be installed in every *basement* of a *building* that requires a standpipe system above *grade*.

(3) A standpipe system shall be installed in every *basement* of a *building* that is regulated by Sentence 3.2.2.15.(2).

(4) A standpipe system is not required to be installed in the lowest *storey* in a *building* if this *storey* is a *service room* which has an area not more than 50 m².

(5) A standpipe system is not required to be installed in a roof-top enclosure if this enclosure has an area not more than 50 m².

Table 3.2.9.1.

Building Limits without Standpipe Systems

Forming Part of Sentence 3.2.9.1.(1)

| Occupancy Classification | Building Area, m ² | | |
|--------------------------|-------------------------------|-----------|-----------|
| | 1 Storey | 2 Storeys | 3 Storeys |
| A | 2 500 | 2 000 | 1 500 |
| C | 2 000 | 1 500 | 1 000 |
| D | 4 000 | 3 000 | 2 000 |
| F, Division 2 | 2 000 | 1 500 | 1 000 |
| F, Division 3 | 3 000 | 2 000 | 1 000 |
| Column 1 | 2 | 3 | 4 |

(6) A standpipe system is not required to be installed in a *storage garage* conforming to Article 3.2.2.83. provided the *building* is not more than 15 m high.

(7) A standpipe system is not required to be installed in a *dwelling unit* which

- (a) extends not more than 3 *storeys* above adjacent ground level,

- (b) is completely cut off from the remainder of the *building* so that there is no access to the remainder of the *building*, and
- (c) has direct access to its interior by means of an exterior doorway located not more than 1 500 mm above or below adjacent finished ground level.

3.2.9.2. Standpipe System Design

(1) Except as otherwise provided in this Subsection, if a standpipe system is required, the design, construction, installation and testing of the system shall be in conformance with NFPA 14, "Standard for the Installation of Standpipe and Hose Systems".

(2) A dry standpipe that is not connected to a water supply shall not be considered as fulfilling the requirements of this Article.

(3) If more than one standpipe is provided, the total water supply need not be more than 30 L/s.

(4) The residual water pressure at the design flow rate at the hydraulically most remote hose connection of a standpipe system that is required to be installed in a *building* is permitted to be less than 450 kPa provided that

- (a) the *building* is *sprinklered*,
 - (b) the water supply at the base of the sprinkler riser is capable of meeting the design flow rate and pressure demand of the sprinkler system, including the inside and outside hose allowance, and
 - (c) fire protection equipment is available to deliver, by means of the fire department connection, the full demand flow rate at a residual water pressure of 450 kPa at the hydraulically most remote hose connection of the standpipe system.
- (5) A fire department connection shall be provided for every standpipe system.

(6) Pumps required to have a rated net head pressure greater than 280 kPa and their controllers shall be *listed* and labelled.

(7) Couplings for hoses or other fittings used in connection with such couplings shall conform to ULC-S513, "Standard for Threaded Couplings for 38 mm and 65 mm Fire Hose" or ULC-S543, "Standard for Internal Lug Quick Connect Couplings for Fire Hose".

(8) If freezing of piping may occur, a dry standpipe system may be provided and so arranged through the use of *listed* devices to

- (a) automatically admit water to the system by opening of a hose valve, and
 - (b) transmit a signal to an attended location.
- (9) A standpipe riser shall be located in
- (a) an *exit* stair shaft, or
 - (b) a *service space*.

3.2.9.3. Hose Connections

(1) If a standpipe system is required in a *building*, 38 mm diam hose connections shall be provided in each *storey* in the *building*.

(2) In addition to the requirements in Sentence (1), if a standpipe system is required, 65 mm diam hose connections shall be installed in each *storey* in the *building* if the *building*

- (a) is more than 25 m high, measured between *grade* and the ceiling of the top *storey*, or
- (b) has a *building area* of more than 4 000 m².

3.2.9.4. Hose Stations

(1) If a standpipe system is required in a *building*, hose stations shall be provided in each *storey* in the *building*.

(2) Each hose station shall be equipped with a hose rack filled with not more than 30 m of 38 mm diam fire hose and the hose rack and fire hose shall be

- (a) *listed*, or
- (b) approved by the Factory Mutual Research Corporation.

(3) Except in a Group F *occupancy*, at each hose station, hose connections, valves, fire hose, nozzle and hose rack shall be in a hose cabinet.

(4) A hose cabinet referred to in Sentence (3) shall be of sufficient size to

- (a) contain the equipment referred to in Sentence (3),
- (b) contain a *listed* fire extinguisher, and
- (c) provide sufficient clearance to permit the use of a standard fire department hose key.

(5) Hose stations shall be located

- (a) so that every portion of the *building* can be reached by a hose stream and is within 3 m of a nozzle attached to the hose required in Sentence (2),
- (b) not more than 5 m from every required *exit* serving a *floor area*, except
 - (i) for the *first storey*, or
 - (ii) if additional hose stations are required to achieve full coverage of the *floor area*, and
- (c) in a conspicuous location where they are not likely to be obstructed.

(6) Except as permitted in Sentence (7), hose stations shall be located so that it is not necessary to penetrate an *exit* with a hose in order to provide the design coverage required in Clause (5)(a).

(7) A hose is permitted to penetrate an *exit* in order to provide the required coverage to

- (a) a *service room* referred to in Sentence 3.2.9.1.(4),
- (b) a roof-top enclosure referred to in Sentence 3.2.9.1.(5),
- (c) a room not more than 50 m² in area, or
- (d) a room or group of rooms not more than 200 m² in area in a *sprinklered floor area*.

(8) A hose station located on one side of a *horizontal exit* shall be considered to serve only the *floor area* on that side of the *horizontal exit*.

(9) A hose cabinet shall be located so that its door, when fully opened, will not obstruct the required width of a *means of egress*.

(10) A hose station in a Group B, Division 1 *major occupancy* is permitted to be located in a secure area, or in a lockable cabinet provided that

- (a) identical keys for all cabinets are located at all guard stations, or
- (b) electrical remote release devices are provided and are connected to an emergency power supply.

3.2.9.5. Supervisory Signal Annunciation for Valves

(1) If a fire alarm system in a *building* is required to have an annunciator by Sentence 3.2.4.8.(1), except for hose valves, each valve controlling water supplies in a standpipe system shall be equipped with an electrically supervised switch for transmitting a signal for individual annunciation in the event of movement of the valve handle.

3.2.9.6. Water Supply for 38 mm Hose Connections

(1) If a standpipe and hose system is required, the water supply shall be sufficient to provide a flow, measured at each of the two hydraulically most remote 38 mm diam hose connections

- (a) of not less than 380 L/min,
- (b) for not less than 30 min,
- (c) at a pressure of not less than 450 kPa, and
- (d) of not less than 190 L/min from each of the two outlets simultaneously.

3.2.9.7. Water Supply for 65 mm Hose Connections

(1) If 65 mm diam hose connections are required, the water supply shall be sufficient to provide a flow, measured at each of the two hydraulically most remote 65 mm diam hose connections

- (a) of not less than 1 890 L/min,
- (b) for not less than 30 min,
- (c) at a pressure of not less than 450 kPa, and
- (d) of not less than 945 L/min from each of the two outlets simultaneously.

(2) If the *building* is less than 84 m high, measured between *grade* and the ceiling level of the top *storey*, the water supply required in Sentence (1) is permitted to be supplied through the fire department connection.

(3) If the *building* is 84 m or more high, measured between *grade* and the ceiling level of the top *storey*, the water supply required in Sentence (1) shall be provided by sufficient pumping capacity.

(4) If the *building* is 84 m or more high, measured between *grade* and the ceiling level of the top *storey*, the *building* shall be served by not less than two sources of water supply from a public water system.

Section 3.3. Safety within Floor Areas

3.3.1. All Floor Areas

3.3.1.1. Separation of Suites

(1) Except as permitted by Sentences (2) and (3), each *suite* in other than *business and personal services occupancies* shall be separated from adjoining *suites* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

- (a) the floor assembly above the *floor area*, or
- (b) the floor assembly below the *floor area*, if there is no floor assembly above.

(3) *Occupancies* that are served by *public corridors* conforming to Sentence 3.3.1.4.(5) in a *building* that is *sprinklered*, are not required to be separated from one another by *fire separations* provided the *occupancies* are

- (a) *suites of business and personal services occupancy*,
- (b) fast food vending operations that do not provide seating for customers, and
- (c) *suites of mercantile occupancy*.

3.3.1.2. Hazardous Substances, Equipment and Processes

(1) If hazardous substances are used in connection with the activities of any *occupancy* other than as permitted by Subsection 3.3.5. for a *high hazard industrial occupancy*, the storage, handling and use of the hazardous substances shall be in conformance with

- (a) the Ontario Fire Code, or
- (b) the National Fire Code of Canada 1995, in the absence of regulations referred to in Clause (a).

(2) Cooking equipment, not within a *dwelling unit*, used in processes producing grease-laden vapours shall be designed and installed in conformance with Part 6.

(3) A fuel-fired *appliance* shall not be installed in a corridor serving as an *access to exit*.

3.3.1.3. Means of Egress

(1) *Access to exit* within *floor areas* shall conform to Subsections 3.3.2. to 3.3.5., in addition to the requirements of this Subsection.

(2) If a podium, terrace, platform or contained open space is provided, egress requirements shall conform to the appropriate requirements of Sentence 3.3.1.5.(1) for rooms and *suites*.

(3) *Means of egress* shall be provided from every roof which is intended for *occupancy*, and from every podium, terrace, platform or contained open space.

(4) If a roof is used or intended for an *occupant load* more than 60, at least 2 separate *means of egress* shall be provided from the roof to stairs

- (a) designed in conformance with the requirements for *exit* stairs, and

(b) located so that the distance between the stairs conforms to the requirements of Article 3.4.2.3. for *exits*.

(5) A rooftop enclosure shall be provided with an *access to exit* that leads to an *exit*

(a) at the roof level, or

(b) on the *storey* immediately below the roof.

(6) A rooftop enclosure which is more than 200 m² in area shall be provided with at least 2 *means of egress*.

(7) Two points of egress shall be provided for a *service space* referred to in Sentence 3.2.1.1.(7) if

(a) the area is more than 200 m², or

(b) the travel distance measured from any point in the *service space* to a point of egress is more than 25 m.

(8) Except as permitted by Sentences 3.3.4.4.(6) and (7), each *suite* in a *floor area* that contains more than one *suite* shall have

(a) an exterior *exit* doorway, or

(b) a doorway

(i) into a *public corridor*, or

(ii) to an exterior passageway.

(9) Except as permitted by this Section and by Sentence 3.4.2.1.(2), at the point where a doorway referred to in Sentence (8) opens onto a *public corridor* or exterior passageway, it shall be possible to go in opposite directions to each of 2 separate *exits*.

(10) *Means of egress* for a below ground *service room* which is not normally occupied, is permitted to be provided by stairways or fixed ladders.

3.3.1.4. Public Corridor Separations

(1) Except as otherwise required by this Part or permitted by Sentences (2) to (7), a *public corridor* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(2) The *fire-resistance rating* of a *fire separation* between a *public corridor* and the remainder of a *floor area* is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

(a) the floor assembly above the *floor area*, or

(b) the floor assembly below the *floor area*, if there is no floor assembly above.

(3) If a *floor area* is *sprinklered*, no *fire-resistance rating* is required for a *fire separation* between a *public corridor* and the remainder of the *floor area* provided the corridor does not serve a *care or detention occupancy* or a *residential occupancy*.

(4) If a *floor area* is *sprinklered*, no *fire separation* is required between a *public corridor* and the remainder of the *floor area* provided the *public corridor*

(a) is more than 5 m in unobstructed width, and

(b) does not serve

(i) a *care or detention occupancy*, or

(ii) a *residential occupancy*.

(5) If a *floor area* is *sprinklered*, no *fire separation* is required between a room or a *suite* and a *public corridor* that serves it provided the *public corridor* complies with Sentence 3.3.1.9.(6).

(6) A floor assembly of a *public corridor* above a crawl space that conforms to Sentence 3.2.2.9.(2) is not required to be a *fire separation*.

(7) If a *floor area* is *sprinklered*, no *fire separation* is required between a *public corridor* and a room containing water closets and lavatories provided the room and the *public corridor* are separated from the remainder of the *floor area* by a *fire separation* that has a *fire-resistance rating* not less than that required between the *public corridor* and the remainder of the *floor area*.

(8) The sprinkler system in Sentences (3), (4), (5) and (7) shall be electrically supervised in conformance with Sentence 3.2.4.9.(2) and, upon operation, shall cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.7.(4) when the corridor serves a Group E or Group F, Division 1 or 2 *occupancy*.

3.3.1.5. Egress Doorways

(1) Except for *dwelling units*, a minimum of 2 egress doorways located so that one doorway could provide egress from the room or *suite* as required by Article 3.3.1.3. if the other doorway becomes inaccessible to the occupants due to a fire which originates in the room or *suite*, shall be provided for every room and every *suite*

(a) whose area is more than 15 m² and is used for

(i) a *high hazard industrial occupancy*, or

(ii) a *hazardous room*,

(b) intended for an *occupant load* more than 60,

(c) in a *floor area* that is not *sprinklered*, and

(i) the area of a room or *suite* is more than the value in Table 3.3.1.5.A., or

(ii) the travel distance within the room or *suite* to the nearest egress doorway, is more than the value in Table 3.3.1.5.A.,

(d) in a *floor area* that is *sprinklered* and does not contain a *high hazard industrial occupancy* and

(i) the travel distance to an egress doorway is more than 25 m, or

(ii) the area of the room or *suite* is more than the value in Table 3.3.1.5.B., or

(e) where the area of the room is more than 100 m² and it is a *hazardous classroom* in elementary or secondary school.

Table 3.3.1.5.A.

Egress in Floor Area not Sprinklered

Forming Part of Sentence 3.3.1.5.(1)

| Occupancy of Room or Suite | Maximum Area of Room or Suite, m ² | Maximum Distance to Egress Doorway, m |
|----------------------------|---|---------------------------------------|
| Group A | 150 | 15 |
| Group C | 150 ⁽¹⁾ | 25 ⁽¹⁾ |
| Group D | 200 | 25 |
| Group E | 200 | 25 |
| Group F, Division 2 | 200 | 25 |
| Group F, Division 3 | 200 | 25 |
| Column 1 | 2 | 3 |

Note to Table 3.3.1.5.A.:

⁽¹⁾ See Article 3.3.4.4. for dwelling units.

Table 3.3.1.5.B.

Egress in Floor Area Sprinklered

Forming Part of Sentence 3.3.1.5.(1)

| Occupancy of Room or Suite | Maximum Area of Room or Suite, m ² |
|----------------------------|---|
| Group A | 200 |
| Group B, Division 1 | 100 |
| Group B, Division 2 or 3 | |
| sleeping rooms | 100 |
| other than sleeping rooms | 200 |
| Group C | 150 ⁽¹⁾ |
| Group D | 300 |
| Group E | 200 |
| Group F, Division 2 | 200 |
| Group F, Division 3 | 300 |
| Column 1 | 2 |

Note to Table 3.3.1.5.B.:

⁽¹⁾ See Article 3.3.4.4. for dwelling units.

(2) Except for a *mezzanine* within a *dwelling unit*, every *mezzanine* that is not required to terminate at a vertical *fire separation* in Article 3.2.8.2. shall have 2 egress facilities placed in such a manner that one facility could provide egress from the *mezzanine* if the other facility becomes inaccessible to the occupants of the *mezzanine* due to a fire which might originate in the room or *suite* in which the *mezzanine* is located where

- (a) the *occupancy* of the *mezzanine*, room or *suite* is classified as Group F, Division 1,
- (b) the *mezzanine* is intended for an *occupant load* of more than 60 persons,
- (c) in a *floor area* that is not *sprinklered*,
 - (i) the area of a *mezzanine* is more than the value in Table 3.3.1.5.A., or
 - (ii) the travel distance to an egress doorway or an egress facility is more than the value in Table 3.3.1.5.A., or
- (d) in a *floor area* that is *sprinklered*,

(i) the travel distance to an egress doorway or an egress facility is not more than 25 m, or

(ii) the area of the *mezzanine* is more than the value in Table 3.3.1.5.B.

(3) For the purpose of Clause (2)(c) and Clause 2(d)

- (a) if the room or *suite* in which the *mezzanine* is located is permitted to have one egress doorway, the travel distance is measured from any point on the *mezzanine* to that doorway, or
- (b) if the room or *suite* in which the *mezzanine* is located is required to have more than one egress doorway, the travel distance is measured from any point on the *mezzanine* to the nearest egress facility leading from the *mezzanine*.

(4) Except for a *mezzanine* which is not considered as a *storey* in calculating *building height* in Sentence 3.2.1.1.(4), where the space below a *mezzanine* is enclosed, an egress facility from the *mezzanine* shall not lead into the enclosed space.

3.3.1.6. Travel Distance

(1) If more than one egress doorway is required from a room or *suite* referred to in Article 3.3.1.5., the travel distance within the room or *suite* to the nearest egress doorway shall not exceed the maximum travel distances specified in Clauses 3.4.2.5.(1)(a), (b), (c) and (f) for *exits*.

3.3.1.7. Protection on Floor Areas with a Barrier-Free Path of Travel

(1) Except as provided in Sentences (2) and (3), every *floor area* above or below the *first storey* that has a *barrier-free* path of travel shall

- (a) be served by an elevator
 - (i) conforming to Sentences 3.2.6.9.(4) to (6),
 - (ii) protected against fire in conformance with Clauses 3.2.6.9.(3)(b) or (c), and
 - (iii) in a *building* over 3 *storeys* in *building height*, protected against smoke movement so that the hoistway will not contain more than 1% by volume of contaminated air from a fire floor during a period of 2 h after the start of a fire, assuming an outdoor temperature equal to the January design temperature on a 2.5% basis determined in conformance with Subsection 2.5.1., or
- (b) be divided into at least 2 zones by *fire separations* conforming to Sentences (4), (5) and (6) so that
 - (i) persons with physical disabilities can be accommodated in each zone,
 - (ii) the travel distance from any point in one zone to a doorway leading to another zone shall be not more than the value for travel distance permitted by Sentence 3.4.2.5.(1) for the *occupancy* classification of the zone, and
 - (iii) a *barrier-free* path of travel is provided to an *exit*.

(2) In *residential occupancies*, the requirements of Sentence (1) are waived if a balcony conforming to Sentence (7) is provided for each *suite*, except for *suites* on the *storey* containing the *barrier-free* entrance described in Article 3.8.1.2.

(3) The requirements of Sentences (1) and (2) are waived when the *building* is *sprinklered*.

(4) Except as permitted by Sentence (5), the *fire separations* referred to in Clause (1)(b) shall have a *fire-resistance rating* not less than 1 h.

(5) The *fire-resistance rating* of the *fire separations* referred to in Clause (1)(b) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

- (a) the floor assembly above the *floor area*, or
- (b) the floor assembly below the *floor area*, if there is no floor assembly above.

(6) A door acting as a *closure* in a *fire separation* referred to in Clause (1)(b) shall be weatherstripped or otherwise designed and installed to retard the passage of smoke.

(7) A balcony required by Clause (1)(c) shall

- (a) Reserved
- (b) be not less than 1500 mm deep from the outside face of the exterior wall to the inside edge of the balcony, and
- (c) provide not less than 0.5 m² for each occupant of the *suite*.

3.3.1.8. Headroom Clearance

(1) Except within the *floor area* of a *storage garage*, the minimum headroom clearance in every *access to exit* shall conform to the requirements of Article 3.4.3.6. for *exits*.

3.3.1.9. Corridors

(1) The minimum width of a *public corridor* shall be 1 100 mm.

(2) Except as required by Sentences 3.3.3.3.(2) and (3), the minimum unobstructed width shall be 1 100 mm for every

- (a) corridor used by the public,
- (b) corridor serving classrooms, and
- (c) corridor in a Group B, Division 2 or 3 *occupancy* where the corridor
 - (i) serves a *service room*,
 - (ii) serves an administrative area,
 - (iii) will not be used by non-ambulatory outpatients, or
 - (iv) will not be used by non-ambulatory residents.

(3) Except as permitted by Sentence (4), obstructions located within 1 980 mm of the floor shall not project more than 100 mm horizontally in a manner that would create a hazard for a person with a visual disability travelling adjacent to the walls in

- (a) an *exit* passageway,
- (b) a *public corridor*,
- (c) a corridor used by the public,
- (d) a corridor serving classrooms, or

(e) a corridor serving patients' or residents' sleeping rooms in a Group B, Division 2 or Division 3 *occupancy*.

(4) The horizontal projection of an obstruction referred to in Sentence (3) is permitted to be more than 100 mm provided the clearance between the obstruction and the floor is less than 680 mm.

(5) If a *public corridor*, a corridor used by the public, a corridor serving classrooms or a corridor serving patients' or residents' sleeping rooms in a Group B, Division 2 or Division 3 *occupancy*, contains an *occupancy*, the *occupancy* shall not reduce the unobstructed width of the corridor to less than its required width.

(6) If a *public corridor* conforming to Clause 3.4.2.5.(1)(d) contains an *occupancy*

- (a) the *occupancy* shall be located so that for pedestrian travel there is an unobstructed width not less than 3 m at all times adjacent and parallel to all rooms and *suites* that front onto the *public corridor*, and
- (b) the combined area of all *occupancies* in the *public corridor* shall be not more than 15% of the area of the *public corridor*.

(7) Except as provided in Sentence 3.3.3.3.(1), a dead end corridor shall conform to Sentences (8) to (14).

(8) A dead end corridor is permitted in an *assembly occupancy* where there is a second and separate egress doorway from each room or *suite* not leading into a dead end corridor.

(9) In a *residential occupancy*, except for corridors served by a single *exit* as described in Sentence 3.3.4.4.(7), a dead end *public corridor* is permitted provided it is not more than 6 m long.

(10) Dead end corridors in Sentence (9) shall contain no door openings to *service rooms* containing fuel-fired *appliances* or rooms which may be considered a hazard.

(11) A dead end *public corridor* is permitted in a *business and personal services occupancy* where

- (a) the dead end corridor
 - (i) serves an *occupant load* of not more than 30 persons,
 - (ii) is not more than 9 m long, and
 - (iii) is provided with doors having self-closing devices, or
- (b) there is a second and separate egress doorway from each room or *suite* not leading into a dead end corridor.

(12) A dead end corridor is permitted in a *mercantile occupancy* where

- (a) the dead end corridor
 - (i) serves an *occupant load* of not more than 30 persons,
 - (ii) is not more than 9 m long, and
 - (iii) is provided with doors having self-closing devices, or
- (b) there is a second and separate egress doorway from each room or *suite* not leading into a dead end corridor.

(13) A dead end corridor is permitted in a *low or medium hazard industrial occupancy* where

(a) the dead end corridor

(i) serves an *occupant load* of not more than 30 persons,

(ii) is not more than 9 m long, and

(iii) is provided with doors having self-closing devices, or

(b) there is a second and separate egress doorway from each room or *suite* not leading into a dead end corridor.

(14) A dead end corridor is permitted in a *high hazard industrial occupancy* where there is a second and separate egress doorway from each room or *suite* not leading into a dead end corridor.

3.3.1.10. Door Swing

(1) Except as permitted by Article 3.3.1.11., a door that opens into a corridor or other facility providing *access to exit* from a *suite*, or a room not located within a *suite*, shall swing on a vertical axis.

(2) Except as permitted by Article 3.3.1.11., a door that opens into a corridor or other facility providing *access to exit* from a room or *suite* shall swing in the direction of travel to the *exit* if the room or *suite* is used or intended for

(a) an *occupant load* more than 60,

(b) a *high hazard industrial occupancy*,

(c) a *hazardous classroom* in an elementary or secondary school, or

(d) a Group B, Division 2 or 3 *occupancy*.

(3) Every door that divides a corridor that is not wholly contained within a *suite* shall swing on a vertical axis in the direction of travel to the *exit* where the corridor provides *access to exit* for

(a) an *occupant load* more than 60,

(b) a *high hazard industrial occupancy*,

(c) a *hazardous classroom* in an elementary or secondary school, or

(d) a Group B, Division 2 or 3 *occupancy*.

(4) If a pair of doors is installed in a corridor that provides *access to exit* in both directions, the doors shall swing in opposite directions, with the door on the right hand side swinging in the direction of travel to the *exit*.

3.3.1.11. Sliding Doors

(1) Except as permitted by Sentence (2), a sliding door provided in the locations described in Article 3.3.1.10. shall

(a) be designed and installed to swing on the vertical axis in the direction of travel to the *exit* when pressure is applied, and

(b) be identified as a swinging door by means of a label or decal affixed to it.

(2) In a Group B, Division 1 *occupancy*, or in an *impeded egress zone* in other *occupancies*, sliding doors used in an *access to exit* need not conform to Sentence (1) and Article 3.3.1.10.

(3) Movable *partitions* used to separate a *public corridor* from an adjacent *business and personal services occupancy* or a *mercantile occupancy* need not conform to Sentence (1) and Sentences 3.3.1.10.(1)

and (2) provided the *partitions* are not located in the only *means of egress*.

3.3.1.12. Doors and Door Hardware

(1) A door that opens into or is located within a *public corridor* or other facility that provides *access to exit* from a *suite* shall

(a) provide a clear opening of not less than 800 mm if there is only one door leaf,

(b) in a doorway with multiple leaves, have the active leaf providing a clear opening of not less than 800 mm, and

(c) not open onto a step.

(2) A door in an *access to exit* shall be readily openable in travelling to an *exit* without requiring keys, special devices or specialized knowledge of the door opening mechanism, except that this requirement does not apply to a door serving a *contained use area*, or an *impeded egress zone*, provided the locking devices conform to Sentence (6).

(3) Except as permitted by Sentence (4), door release hardware shall be operable by one hand and the door shall be openable with not more than one releasing operation.

(4) An egress door from an individual *dwelling unit* or from a *suite* of *residential occupancy* is permitted to be provided with additional devices that require a releasing operation additional to the main door release hardware, provided the devices are readily operable from the inside without the use of keys, special devices or specialized knowledge.

(5) Door release hardware shall be installed not more than 1 200 mm above the finished floor.

(6) An egress door in an *access to exit* serving a *contained use area* or an *impeded egress zone* is permitted to be equipped with locking devices that can be released either locally or remotely in conformance with Sentence (7) or Sentence (8).

(7) Local locking devices permitted by Sentence (6) shall be operable by a key from both sides of the door.

(8) Controls for the remote release of door locking devices permitted by Sentence (6) shall be located in an area readily available to security personnel.

(9) Locking devices permitted by Sentence (6) that are electrically operated shall be

(a) designed to operate on emergency power, and

(b) capable of manual release by security personnel.

(10) A door in an *access to exit* is permitted to be equipped with an electromagnetic locking device conforming to Sentence 3.4.6.15.(4), except that this permission does not apply to a door

(a) in an elementary or secondary school,

(b) a door leading from a Group F, Division 1 *occupancy*, or

(c) requiring a latch release device by Article 3.3.2.6.

(11) Except as required in Article 3.3.3.4., in a Group B, Division 2 or 3 *occupancy*, every door that opens into or is located within a corridor or other facility that provides *access to exit* shall comply with Sentences (1) and (2) where the door

- (a) serves a *service room*,
- (b) serves an administrative area,
- (c) will not be used by non-ambulatory outpatients,
- (d) is located within a patient's or resident's sleeping room, or
- (e) is in a nursing home or home for the aged which will accommodate only ambulatory residents.

3.3.1.13. Ramps and Stairways

(1) Except as permitted by Sentence (2), Article 3.3.4.7., and Subsection 3.3.2., ramps and stairways shall conform to the dimensional, *guard* and handrail requirements in Section 3.4. for *exit* ramps and stairways.

(2) Ramps and stairways that do not conform to the requirements of Sentence (1) are permitted to serve *service rooms* and *service spaces* and in *industrial occupancies*, provided the ramps and stairways are intended only for occasional use for servicing equipment and machinery.

3.3.1.14. Exterior Passageways

(1) An exterior passageway leading to a required *exit* shall conform to the requirements of Section 3.4. for exterior *exit* passageways.

3.3.1.15. Curved or Spiral Stairs

(1) A curved or spiral stair is permitted in a stairway not required as an *exit* provided the stair has

- (a) treads with
 - (i) a minimum run not less than 150 mm, and
 - (ii) an average run not less than 200 mm, and
- (b) risers in conformance with Sentence 3.4.6.7.(2).

3.3.1.16. Capacity of Access to Exits

(1) The capacity of an *access to exit* shall be based on the *occupant load* of the portion of the *floor area* served.

(2) In an *access to exit* the required width of ramps with a slope not more than 1 in 8, doorways, and corridors shall be based on not less than 6.1 mm per person.

(3) In an *access to exit* the required width of a ramp with a slope more than 1 in 8 shall be based on not less than 9.2 mm per person.

(4) In an *access to exit* from a *floor area* used or intended to be used for patients or residents in a Group B, Division 2 or Division 3 *occupancy*, the required width of corridors, doorways, and ramps shall be based on not less than 18.4 mm per person.

(5) The capacity of stairs in an *access to exit* shall conform to the requirements for stairs in Article 3.4.3.4.

3.3.1.17. Guards

(1) Except for the front edges of *stages*, floor pits in repair garages and loading docks, a *guard* not less than 1 070 mm high shall be provided

- (a) around each roof to which access is provided for other than maintenance,
- (b) at openings into smoke shafts referred to in Subsection 3.2.6. that are less than 1 070 mm above the floor, and
- (c) at each raised floor, *mezzanine*, balcony, gallery, interior or exterior vehicular ramp, and at other locations where the difference in level is more than 600 mm.

(2) Except as provided in Sentence (3) and Sentence 3.3.2.8.(4), openings through any *guard* which is required by Sentence (1) shall be of a size which will prevent the passage of a sphere having a diameter more than 100 mm unless it can be shown that the location and size of openings which exceed this limit do not represent a hazard.

(3) Openings through any *guard* which is required by Sentence (1) and which is installed in a *building of industrial occupancy* shall be of a size which will prevent the passage of a sphere having a diameter more than 200 mm unless it can be shown that the location and size of openings which exceed this limit do not represent a hazard.

(4) Openings through any *guard* which is not required by Sentence (1) and which serves a *building of other than industrial occupancy*, shall be of a size which

- (a) will prevent the passage of a sphere having a diameter more than 100 mm, or
- (b) will permit the passage of a sphere having a diameter more than 200 mm unless it can be shown that the location and size of openings which exceed these limits do not represent a hazard.

(5) Unless it can be shown that the location and size of openings do not present a hazard, a *guard* shall be designed so that no member, attachment or opening located between 140 mm and 900 mm above the level protected by the *guard* will facilitate climbing.

3.3.1.18. Transparent Doors and Panels

(1) Except for *dwelling units* and as permitted by Sentence (4), a glass or transparent door shall be designed and constructed so that the existence and position of the door is readily apparent, by attaching non-transparent hardware, bars or other permanent fixtures to it.

(2) A glass door shall be constructed of

- (a) laminated or tempered safety glass conforming to CAN/CGSB-12.11-M, "Tempered or Laminated Safety Glass", or
- (b) wired glass conforming to CAN/CGSB-12.11-M, "Wired Safety Glass".

(3) Except as permitted by Sentence (4), transparent panels used in an *access to exit* which, because of their physical configuration or design, could be mistaken as a *means of egress* shall be made inaccessible by barriers or railings.

(4) Sliding glass *partitions* which separate a *public corridor* from an adjacent *occupancy* and which are intended to be open during normal working hours need not conform to Sentences (1) and (3), provided the *partitions* are suitably marked to indicate their existence and position.

(5) Glass in doors and in sidelights that could be mistaken for doors, within or at the entrances to *dwelling units* and in public areas, shall conform to the requirements of Article 9.6.6.2.

(6) A window in a public area that extends to less than 1 070 mm above the floor and is located above the second *storey* in a *building of residential occupancy*, shall be protected by a barrier or railing from the floor to not less than 1 070 mm above the floor, or the window shall be

non-openable and designed to withstand the lateral design loads for balcony *guards* required by Article 4.1.10.1.

3.3.1.19. Exhaust Ventilation

(1) An exhaust ventilation system designed in conformance with the appropriate requirements of Part 6 shall be provided in a *building* or part of a *building* in which dust, fumes, gases, vapour or other impurities or contaminants have the potential to create a fire or explosion hazard.

(2) Explosion relief devices, vents or other protective measures conforming to Subsection 6.2.2. shall be provided for a space in which substances or conditions that have the potential to create an explosion hazard are present as a result of the principal use of a *building*.

3.3.1.20. Janitors' Rooms

(1) Except as permitted by Sentences (2) and (3), a room or space within a *floor area* for the storage of janitorial supplies shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

- (a) the floor assembly above the *floor area*, or
- (b) the floor assembly below the *floor area*, if there is no floor assembly above.

(3) The *fire separation* required by Sentence (1) is not required to have a *fire-resistance rating* if the *floor area* in which the room or space is located is *sprinklered*.

3.3.1.21. Common Laundry Rooms

(1) Except as permitted by Sentences (2) and (3), in a *building* of *residential occupancy*, a laundry room in a *floor area* that is not within a *dwelling unit* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

- (a) the floor assembly above the *floor area*, or
- (b) the floor assembly below the *floor area*, if there is no floor assembly above.

(3) The *fire separation* required by Sentence (1) is not required to have a *fire-resistance rating* if the *floor area* in which the laundry room is located is *sprinklered*.

3.3.1.22. Obstructions

(1) No obstruction shall be permitted in any *occupancy* that would restrict the width of a normal *means of egress* from any part of a *floor area* to less than 750 mm unless an unobstructed alternative *means of egress* is provided adjacent to, accessible from, and plainly visible from the obstructed *means of egress*.

3.3.1.23. Signs in Service Spaces

(1) Illuminated signs conforming to Sentences 3.4.5.1.(3) and (5) shall be provided to indicate the direction to egress points in a *service space* referred to in Sentence 3.2.1.1.(7).

3.3.1.24. Welding and Cutting

(1) If a room in other than an industrial *major occupancy* is used for welding and cutting operations, it shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h, except that this requirement does not apply to a room that is protected by an automatic fire extinguishing system.

3.3.2. Assembly Occupancy

3.3.2.1. Scope

(1) This Subsection applies to *floor areas* or parts thereof used or intended for use as *assembly occupancies*.

3.3.2.2. Fire Separations

(1) Except as permitted by Sentence (2), the seating area of a Group A, Division 1 *occupancy* shall be separated from adjacent *occupancies* in the *floor area* by a *fire separation* having a *fire-resistance rating* not less than 1 h if the *occupant load* in the seating area exceeds 200.

(2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

- (a) the floor assembly above the *floor area*, or
- (b) the floor assembly below the *floor area*, if there is no floor assembly above.

(3) If usable space exists under tiers of seats in arena type *buildings*, a *fire separation* with a *fire-resistance rating* not less than 45 min shall be provided between the space and the seats or the space shall be *sprinklered*.

(4) Except as required in Sentences (5), (6) and (7), in an elementary or secondary school, a *hazardous classroom* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than

- (a) 1 h where the *building* is not *sprinklered*, or
- (b) 30 min where the *building* is *sprinklered*.

(5) Except as provided in Sentence (6), in an elementary or secondary school, a *hazardous classroom* containing an auto repair shop shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than

- (a) 2 h where the *building* is not *sprinklered*, or
- (b) 1 h where the *building* is *sprinklered*.

(6) In an elementary or secondary school, if there is a group of *hazardous classrooms* or a group of *hazardous classrooms* and ancillary rooms of a complementary use, the *fire separation* required by Sentence (4) or (5) need not be provided within the group but the *fire separation* is required between the group and the remainder of the *building*.

(7) In an elementary or secondary school, a *hazardous classroom* containing a spray painting operation shall be separated from the

remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than

- (a) 2 h, or
- (b) 1 h where the spray painting operation is separated from the classroom by a *fire-separation* having a *fire-resistance rating* not less than 1 h.

(8) Except as required in Sentence (9), in an elementary or secondary school, where the *occupant load* of a room exceeds 200 persons, the room and any ancillary rooms of a complementary use shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than

- (a) 1 h where the *building* is not *sprinklered*, or
- (b) 30 min where the *building* is *sprinklered*.

(9) A kitchen shall not be located within the *fire compartment* required in Sentence (8).

3.3.2.3. Fixed Seats

(1) Except for the requirements of Article 3.3.2.7. for bench-type seats and except as required or permitted by Sentence (2) and Articles 3.3.2.9. and 3.3.2.10., fixed seats in places of assembly shall be

- (a) attached or secured to the floor, platform or platform riser,
- (b) provided with arms and back, and
- (c) arranged in rows having an unobstructed passage not less than 400 mm wide measured horizontally between plumb lines from the backs of the seats in one row and the edges of the furthest forward projection of the seats in the next row in the unoccupied position.

(2) For fixed seats with backs and with folding tablet arms, the value of 400 mm required by Clause (1)(c) shall be measured when the tablet arms are in the use position, but is permitted to be measured in the stored position provided

- (a) there are not more than 7 seats between any seat and the nearest aisle,
- (b) the seats are located in a lecture hall or an auditorium used for instructional purposes, and
- (c) the tablet arm, when raised manually to a vertical position, falls by the force of gravity to the stored position.

(3) Except as permitted by Sentence (4), aisles shall be located so that there are not more than 7 seats with backs or 20 seats without backs between any seat and the nearest aisle.

(4) The requirements of Sentence (3) do not apply if

- (a) egress doorways are provided to serve both ends of rows of seats,
- (b) each doorway referred to in Clause (a) serves not more than 3 rows of seats, and
- (c) each row contains not more than 100 seats.

(5) Seating arrangements that do not conform to the requirements of Sentences (3) or (4) are permitted provided the standard of safety is not reduced and the time required for egress is not increased.

3.3.2.4. Aisles

(1) Except as required by Articles 3.3.2.7., 3.3.2.9. and 3.3.2.10., aisles leading to egress doors or *exits* shall be provided in conformance with Sentences (2) to (24) in places of assembly which contain fixed seats.

(2) In this Subsection, a converging aisle is an aisle into which the occupants of 2 or more aisles converge in travelling to an *exit*.

(3) An aisle shall terminate at

- (a) a converging aisle,
- (b) an egress doorway from the seating area, or
- (c) an *exit* from the seating area.

(4) A converging aisle shall terminate at

- (a) an egress doorway from the seating area, or
- (b) an *exit* from the seating area.

(5) The minimum clear width of aisles shall be not less than 1 100 mm, except that the width is permitted to be reduced to not less than

- (a) 750 mm if serving not more than 60 seats, and
- (b) 900 mm if serving seats on one side only.

(6) The minimum clear width of each aisle shall be measured at the point in the aisle furthest from

- (a) an egress doorway referred to in Clause (12)(a),
- (b) an *exit* referred to in Clause (12)(b), or
- (c) an *exit* referred to in Sentence (13).

(7) Except for an aisle serving bleacher seats, where rows of seats discharge into an aisle, the minimum clear width required by Sentence (6) shall be increased by 25 mm for each metre of length of the aisle measured in the direction towards an *exit*.

(8) The width of a converging aisle shall be not less than the required width of the widest aisle plus 50% of the total required width of the remaining aisles that it serves.

(9) If rows of seats discharge directly into the converging aisle, the width required by Sentence (8) shall be increased by 25 mm for each metre of length of the aisle where the rows of seats discharge into the aisle.

(10) The width of an egress doorway or an *exit* leading directly from the seating area shall be not less than the required width of the widest aisle or converging aisle plus 50% of the total required width of the remaining aisles and converging aisles that it serves.

(11) Dead-end aisles shall be not more than 6 m long.

(12) Where a seating area is separated as required by Sentences 3.3.2.2.(1) and (2) or 3.3.2.2.(8), the length of travel by any aisle shall be not more than 45 m measured from the most remote point of the aisle to

- (a) an egress doorway in the required separation, or
- (b) an *exit* leading directly from the seating area.

(13) Where a seating area is not required to be separated by Sentences 3.3.2.2.(1) and (2) or 3.3.2.2.(8), the travel distance shall be not more than 45 m measured from the most remote point of the aisle to an *exit*.

(14) Side aisles shall be not less than 1 100 mm wide if seating is provided in conformance with Sentence 3.3.2.3.(5).

(15) An aisle that has a slope not more than 1 in 8 shall not be stepped.

(16) An aisle that slopes more than 1 in 8 shall be stepped.

(17) The passageway between rows of seats served by a stepped aisle shall be level at right angles to the line of travel.

(18) The riser of a step in an aisle shall be

- (a) not less than 110 mm high, and
- (b) not more than 200 mm high.

(19) Variations are permitted in riser height provided

- (a) the height of adjacent risers does not vary by more than 6 mm, and
- (b) the depth of a tread or a platform in the direction of travel is not less than 430 mm.

(20) Steps in an aisle shall

- (a) have a run not less than 230 mm exclusive of nosings,
- (b) have a tread depth not less than 250 mm,
- (c) extend to the adjacent rows of seats in a manner that will not create a hazard from tripping, and
- (d) have a finish on the treads conforming to Sentence 3.4.6.1.(1).

(21) The location of every riser in an aisle shall be made apparent from both directions of travel by strategically placed lighting or contrasting marking stripes.

(22) A platform in an aisle shall be level, except that a slope not more than 1 in 50 is permitted for a platform that is not less than 430 mm deep in the direction of *exit* travel.

(23) If a step is used at the entry to a row of seats from a stepped aisle, an unobstructed platform not less than 800 mm square shall be provided adjacent to the aisle.

(24) The finish of the surface of a platform in or adjacent to a stepped aisle shall conform to Sentence 3.4.6.1.(1).

3.3.2.5. Corridors

(1) Except as permitted by Sentences (2) to (4), a corridor used by the public in an *assembly occupancy* as an *access to exit* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

(a) the floor assembly above the *floor area*, or

(b) the floor assembly below the *floor area*, if there is no floor assembly above.

(3) The *fire-resistance rating* required by Sentence (1) is permitted to be waived if the *floor area* in which the corridor is located is *sprinklered*.

(4) The *fire separation* required by Sentence (1) is permitted to be waived if the distance from any point in the *floor area* to an *exit* measured along the path of travel to an *exit* does not exceed the travel distance permitted by Article 3.4.2.5.

3.3.2.6. Doors

(1) A door equipped with a latching mechanism in an *access to exit* from a room or *suite of assembly occupancy* containing an *occupant load* more than 100 shall be equipped with a device that will release the latch and allow the door to swing wide open when a force not more than that specified in Sentence 3.8.3.3.(7) is applied to the device in the direction of travel to the *exit*.

3.3.2.7. Fixed Bench-Type Seats without Arms

(1) If fixed bench-type seats without arms are provided, the seat width per person shall be assumed to be 450 mm.

(2) The centre-to-centre spacing between rows of bench-type seats shall be not less than 760 mm if back rests are provided, and not less than 550 mm if back rests are not provided.

(3) A clear space of not less than 300 mm shall be provided between the back of each seat and the front of the seat immediately behind it.

3.3.2.8. Guards

(1) Except as required by Sentences (2) to (4) for bleacher seats, *guards* shall be installed in outdoor and indoor places of assembly with fixed seats so that

(a) at the fascia of every box, balcony or gallery where the seats extend to the edge, the height of *guards* is not less than

(i) 760 mm in front of the seats, and

(ii) 920 mm if located at the end of aisles or at the foot of steps,

(b) the height of *guards* along every cross aisle other than those adjacent to the fascia of every box, balcony or gallery is not less than 660 mm, except that *guards* need not be provided if the backs of the seats along the front side of the aisle are not less than 600 mm above the floor of the aisle, and

(c) where the seating is arranged in successive tiers and the height of rise between platforms is more than 450 mm, the height of *guards* is not less than 660 mm along the entire row of seats at the edge of the platform.

(2) The backs and ends of bleacher seats more than 1 200 mm above the ground or floor that are not adjacent to a wall shall be protected with a *guard*

(a) not less than 1 070 mm high above an adjacent aisle surface or foot rest, and

(b) not less than 920 mm high above the centre of an adjacent seat board.

(3) If the front of a bleacher is more than 600 mm above the ground or floor, it shall be protected with a *guard* not less than 840 mm high above the front foot rest.

(4) Openings through any *guard* which is required by Sentences (2) and (3) shall be of a size which will prevent the passage of a sphere having a diameter more than 300 mm.

3.3.2.9. Outdoor Places of Assembly

(1) A Group A, Division 4 *occupancy* and each tier or balcony that has a capacity of more than

- (a) 1 000 persons shall have not less than 3 separate *exits*, or
- (b) 4 000 persons shall have not less than 4 separate *exits*.

(2) In a Group A, Division 4 *occupancy*, every seat shall be located so that the travel distance is not more than 45 m measured along the path of travel from the seat to

- (a) the ground,
- (b) an *exit*,
- (c) an opening to a passageway leading from the seating area, or
- (d) a portal, a vomitory or any other opening through the seating deck structure.

(3) *Exits* from outdoor stadia or grandstands shall be located not more than 25 m apart.

(4) The capacity of a *means of egress* for a Group A, Division 4 *occupancy* shall conform to the requirements of Sentence 3.4.3.4.(3).

(5) Aisles in a Group A, Division 4 *occupancy*

- (a) shall be located so that there are not more than 20 seats between any seat and the nearest aisle,
- (b) shall be not less than 1 200 mm wide, except that an aisle serving less than 60 persons is permitted to be 750 mm wide, and
- (c) shall not have steps unless the slope of the aisle is more than 1 in 8.

(6) Except as permitted by Sentences 3.3.2.10.(1), (2) and (3), steps provided in an aisle shall

- (a) extend the full width of the aisle,
- (b) have risers not more than 230 mm high, and
- (c) have treads with a run not less than 250 mm.

3.3.2.10. Bleachers

(1) Steps provided in aisles of bleachers of the telescopic type shall

- (a) have risers not more than 250 mm high, and
- (b) have treads with a run not less than 280 mm.

(2) If the vertical distance between seating platforms in bleachers is more than 280 mm, an intermediate step shall be provided the full width of the aisle and proportioned to provide 2 equal risers between platforms.

(3) If the vertical distance between seating platforms in bleachers is more than 450 mm, 2 intermediate steps shall be provided the full width of the aisle so that there are 3 equal risers between platforms.

(4) If the passageway between rows of seats is not a closed deck, footboards shall be provided so that

- (a) the total width of the footboards shall be not less than three quarters of the centre-to-centre spacing between rows of seats, and
- (b) the spacing between footboard members shall be not more than 25 mm.

3.3.2.11. Libraries

(1) Except as permitted by Sentence (2), a library book storage room that is not normally accessible to the public shall be separated from the remainder of the *building* by a *fire separation* with a *fire-resistance rating* not less than 2 h if it

- (a) is more than 250 m² in area, or
- (b) contains book stacks that
 - (i) are more than 10 m high, or
 - (ii) penetrate more than one floor assembly.

(2) The *fire separation* required by Sentence (1) is not required if the book storage room is *sprinklered*.

(3) Open book shelves are permitted above and below a *mezzanine* floor in a library *building* provided the height of the shelves is not more than 2 100 mm but not more than 75% of the floor-to-ceiling height of the space above or below the *mezzanine* floor assembly.

3.3.2.12. Stages for Theatrical Performances

(1) A *stage* for theatrical performances and ancillary spaces, including workshops, dressing rooms and storage areas, shall be *sprinklered*.

(2) A *fire separation* with a *fire-resistance rating* not less than 1 h shall be provided between a *stage* for theatrical performances and ancillary spaces, including workshops, dressing rooms and storage areas.

(3) Except as permitted by Sentence (6), a *stage* for theatrical performances and ancillary spaces, including workshops, dressing rooms and storage areas, shall be separated from the seating area by a *fire separation* having a *fire-resistance rating* not less than 1 h, except for a proscenium opening protected with

- (a) a sprinkler deluge system conforming to the requirements of NFPA 13 "Standard for the Installation of Sprinkler Systems",
- (b) an unframed fire curtain if the opening is not more than 20 m wide, or
- (c) a semi-rigid fire curtain if the opening is more than 20 m wide.

(4) A fire curtain required by Sentence (3) shall be of a type designed to close

- (a) automatically upon the actuation of the sprinkler system,
- (b) automatically upon actuation of the fire alarm system,
- (c) manually by remote control devices located at the curtain control panel and at each side of the *stage*, and
- (d) automatically by heat-actuated devices.

(5) At least 2 vents for the purpose of venting fire and smoke to the outside of a *building* shall be provided above a *stage* designed for theatrical performances and shall

- (a) have an aggregate area not less than one eighth of the area of the *stage* behind the proscenium opening, and
- (b) be arranged to open automatically upon actuation of the sprinkler system.

(6) The *fire separation* referred to in Sentence (3) is not required between a *stage* and a seating area in a *floor area* that is *sprinklered*, provided a sprinkler deluge system is installed at the boundary between the *stage* and the seating area.

3.3.2.13. Risers for Stairs

(1) In a Group A, Division 2 *occupancy* used for the serving of food and beverages, an interior flight of stairs with fewer than 3 risers is permitted provided it

- (a) is not less than 900 mm wide,
- (b) is illuminated at all times that occupants are on the premises, and
- (c) has a handrail on each side.

3.3.3. Care or Detention Occupancy

3.3.3.1. Scope

(1) This Subsection applies to *floor areas* or parts thereof used or intended for use as a *care or detention occupancy*.

3.3.3.2. Fire Separations

(1) The *fire separation* required by Sentence 3.3.5.5.(1) between a *care or detention occupancy* and a *repair garage* shall have no openings.

(2) In a Group B, Division 3 *occupancy*, walls between sleeping rooms and adjacent rooms shall be constructed as *fire separations* having a *fire-resistance rating* not less than 1 h, except that the *fire-resistance rating* need not be more than 45 min where the floor assembly is not required to be more than 45 min.

(3) In a Group B, Division 3 *occupancy*, walls separating corridors serving sleeping rooms from adjacent rooms shall be constructed as *fire separations* having a *fire-resistance rating* not less than 1 h, except that the *fire-resistance rating* need not be more than 45 min where the floor assembly is not required to be more than 45 min.

3.3.3.3. Corridors

(1) A corridor used by the public or serving patients or residents shall have no dead-end portion unless the area served by the dead-end portion has a second and separate *means of egress*.

(2) A corridor serving patients in a hospital shall be not less than 2 400 mm wide.

(3) A corridor serving residents who are not ambulatory in a Group B, Division 2 or 3 *occupancy* shall be not less than 1 650 mm wide.

(4) Paired doors in a corridor serving patients or residents shall

(a) swing in opposite directions, the right hand door swinging in the direction of travel, and

(b) be not less than 1 100 mm wide.

3.3.3.4. Doorway Width

(1) Except as permitted in Sentence 3.3.1.12.(11), the minimum clear width of doorways serving patients or residents shall be 1 050 mm.

3.3.3.5. Hospitals and Nursing Homes

(1) *Floor areas* containing patients' or residents' sleeping rooms in a hospital or nursing home shall conform to Sentences (2) to (14).

(2) Except as permitted by Sentence (3), a *floor area* containing patients' or residents' sleeping rooms in a hospital or nursing home shall be divided into not less than 2 *fire compartments*, each not more than 1 000 m² in area.

(3) The *floor area* on either side of a *horizontal exit* conforming to Article 3.4.6.9. is permitted to be considered as a *fire compartment* in applying the requirements of this Article.

(4) Except as permitted by Sentence (5), *fire separations* separating *fire compartments* required by Sentence (2) shall have a *fire-resistance rating* not less than 1 h.

(5) The *fire-resistance rating* of a *fire separation* referred to in Sentence (4) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

- (a) the floor assembly above the *floor area*, or
- (b) the floor assembly below the *floor area*, if there is no floor assembly above.

(6) A *closure* in a *fire separation* between *fire compartments* referred to in Sentence (2) shall be weatherstripped or otherwise designed and installed to retard the passage of smoke.

(7) The travel distance from any point within each *fire compartment* referred to in Sentence (2) to a door to an adjoining *fire compartment* shall be not more than 45 m.

(8) Each *fire compartment* referred to in Sentence (2) shall be capable of accommodating, in addition to its own occupants, the occupants of the largest adjacent *fire compartment* based on a clear floor space of 2.5 m² per patient or resident in the adjacent *fire compartment*.

(9) Except as permitted by Sentences (11) and (12), walls between patients' or residents' sleeping rooms and adjacent rooms shall be constructed as *fire separations* but are not required to have a *fire-resistance rating*.

(10) Except as permitted by Sentence (12), walls separating corridors serving patients' or residents' sleeping rooms from adjacent rooms shall be constructed as *fire separations* but are not required to have a *fire-resistance rating*.

(11) The *fire separation* requirements of Sentence (9) do not apply to walls within a group of intercommunicating patients' or residents' rooms, provided the group of rooms does not

- (a) contain more than 5 patients or residents, or
- (b) include storage, bathing or toilet facilities serving persons not occupying the group of rooms.

(12) A door in a *fire separation* required by Sentence (9) or Sentence (10) is permitted to be equipped with a roller latch.

(13) A *fire separation* required by Sentence (9) or Sentence (10) shall not contain any grilles, louvres or other openings.

3.3.3.6. Protection for Special Care and Treatment Facilities

(1) Compartments containing rooms such as operating rooms, recovery rooms, delivery rooms, intensive care units and critical care units, from which it is impracticable to move patients in an emergency, shall be

- (a) separated from adjacent spaces by *fire separations* having a *fire-resistance rating* not less than 1 h, and
- (b) provided with a mechanical air supply so that during a period of 2 h after the start of a fire in another space, the compartments will not contain more than 1% by volume of contaminated air from the fire area.

3.3.3.7. Contained Use Areas

- (1) A *contained use area* shall conform to Sentences (2) to (4).

(2) A *contained use area* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(3) Except as permitted by Sentence (4), a *building* that includes a *contained use area* shall be *sprinklered*.

(4) A *contained use area*, in a *building* for which Articles 3.2.2.20. to 3.2.2.83. do not require the installation of an automatic sprinkler system, is not required to be *sprinklered* as required by Sentence (3) provided

- (a) the *building* is designed so that during a period of 2 h after the start of a fire in the *contained use area*, other *fire compartments* will not contain more than 1% by volume of contaminated air from the *contained use area*,
- (b) the *building* is designed so that during a period of 2 h after the start of a fire in another part of the *building*, the *contained use area* will not contain more than 1% by volume of contaminated air from the other part of the *building*,
- (c) all doors are designed to be remotely released in conformance with Sentence 3.3.1.12.(6), and
- (d) the *contained use area* does not contain any rooms lined with *combustible padding*.

3.3.3.8. Handrails

(1) Corridors and ramps used by residents in a nursing home shall be equipped with handrails on each side conforming to Sentences 3.4.6.4.(3), (4), (6), (7) and (8).

3.3.4. Residential Occupancy**3.3.4.1. Scope**

(1) This Subsection applies to *floor areas* or parts thereof used or intended for use as *residential occupancies*.

3.3.4.2. Fire Separations

(1) Except as permitted by Sentences (2) and 3.2.2.9.(2), *suites* of *residential occupancy* shall be separated from each other and the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be less than 1 h but not less than 45 min

provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

- (a) the floor assembly above the *floor area*, or
 - (b) the floor assembly below the *floor area*, if there is no floor assembly above.
- (3) *Floor assemblies* within a *dwelling unit* need not be constructed as *fire separations* provided
- (a) the distance between the lowest floor level and the uppermost floor level within the *dwelling unit* is not more than 6 m, and
 - (b) the *dwelling unit* is separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than
 - (i) 45 min if the *building* is *sprinklered* and is not more than 3 storeys in *building height*,
 - (ii) 1 h if the *building* is *sprinklered* and is more than 3 storeys in *building height*,
 - (iii) 1 h if the *building* is not *sprinklered* and is not more than 6 storeys in *building height*, or
 - (iv) 2 h if the *building* is not *sprinklered* and is more than 6 storeys in *building height*.

(4) The *fire-resistance rating* of the *fire separation* located between a *dwelling unit* and an attached *storage garage* need not conform to that required by Sentence 3.3.5.6.(1) provided

- (a) the *storage garage* contains not more than 5 vehicles,
- (b) the *dwelling unit* and the attached *storage garage* are *sprinklered*,
- (c) the *dwelling unit* is separated from the remainder of the *building* in conformance with Sentences (1), (2) and (3),
- (d) there are no air duct systems connecting the *storage garage* and the *dwelling unit*,
- (e) the construction between the *storage garage* and the *dwelling unit* provides an effective barrier to gas and exhaust fumes, and
- (f) every door between the *storage garage* and the *dwelling unit* is
 - (i) tight fitting and weather-stripped to provide an effective barrier against the passage of gas and exhaust fumes,
 - (ii) fitted with a self-closing device, and
 - (iii) not located in a room intended for sleeping.

(5) The *fire separation* required by Sentence 3.3.5.6.(1) is not required between a *dwelling unit* and an attached *storage garage*, serving that *dwelling unit* only, provided

- (a) the *dwelling unit* and its attached *storage garage* are separated from the remainder of the *building* in conformance with Sentences (1), (2) and (3),
- (b) there are no air duct systems connecting the *storage garage* and the *dwelling unit*,
- (c) the construction between the *storage garage* and the *dwelling unit* provides an effective barrier to gas and exhaust fumes, and
- (d) every door between the *storage garage* and the *dwelling unit* is

- (i) tight fitting and weather-stripped to provide an effective barrier against the passage of gas and exhaust fumes,
- (ii) fitted with a self-closing device, and
- (iii) not located in a room intended for sleeping.

3.3.4.3. Storage Rooms

(1) Sprinklers shall be installed in a storage room provided for the use of tenants in a *residential occupancy* within a *floor area* but not contained within a *suite*.

(2) Except as permitted by Sentence (3), a storage room referred to in Sentence (1) shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(3) The *fire-resistance rating* of the *fire separation* required by Sentence (2) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

- (a) the floor assembly above the *floor area*, or
- (b) the floor assembly below the *floor area*, if there is no floor assembly above.

3.3.4.4. Egress from Dwelling Units

(1) Single *storey dwelling units* in an apartment *building* need not lead to a *public corridor* or exterior passageway on the same *storey* provided the *dwelling units* are served by private stairways leading directly to a *public access to exit* on the *storey*

- (a) immediately above, and
- (b) immediately below.

(2) Except as permitted by Sentences (3), (4) and (5), a *dwelling unit* containing more than one *storey* shall have an *exit* door or an egress door opening directly into a *public access to exit* from the uppermost *storey* and from the lowest *storey* of the *dwelling unit* so that each *storey* is served by an *exit* or egress door located not more than 1 500 mm above or below its floor level.

(3) A single *exit* is permitted from a *dwelling unit* provided the *exit* is an exterior doorway not more than 1 500 mm above adjacent ground level and

- (a) it is not necessary to travel up or down more than one *storey* to reach the *exit* door, or
- (b) the uppermost floor level opens to a balcony not more than 6 m above adjacent ground level.

(4) An egress door from either the uppermost *storey* or the lowest *storey* in a *dwelling unit*, as required in Sentence (2), need not be provided

- (a) if that *storey* is served by a stairway that
 - (i) leads to a *public access to exit*,
 - (ii) has no direct access to any other *storey* in the *dwelling unit*, and

(iii) is separated from the other *storeys* in the *dwelling unit* by a *fire separation* having a *fire-resistance rating* of not less than 45 min,

- (b) if the *dwelling unit* has not more than 2 *storeys* above the first *storey* of the *building*, or
- (c) if it is not necessary to travel either more than 18 m, or more than 1 *storey* up or down to reach the egress door.

(5) An egress door from either the uppermost *storey* or the lowest *storey* in a *dwelling unit*, as required in Sentence (2), need not be provided

- (a) on the uppermost *storey* of a *dwelling unit* having not more than 2 *storeys* above the first *storey* of the *building*,
- (b) on each *storey* from which it is not necessary to travel either more than 18 m or more than 1 *storey* up or down within the *dwelling unit* to reach an egress door, or
- (c) where that *storey* is
 - (i) provided with a balcony conforming to Sentence (8),
 - (ii) not more than 2 *storeys* above or below the *dwelling unit* egress door, and
 - (iii) in a *building* that is not more than 6 *storeys* in *building height*.

(6) In a *building* of *residential occupancy* not more than 3 *storeys* in *building height*, a doorway from a *dwelling unit* is permitted to open directly into an *exit* stairway provided the *dwelling unit* has a second and separate *means of egress*.

(7) If a *dwelling unit* has a second and separate *means of egress*, one *means of egress* from a *dwelling unit* is permitted to pass through

- (a) an interior corridor served by a single *exit*,
- (b) an exterior balcony served by a single *exit* stairway, or
- (c) an exterior passageway served by a single *exit* stairway.

(8) Where a balcony is provided to meet the requirements of Sentence (3) or (5), the balcony shall have

- (a) a solid floor having a *fire-resistance rating* not less than that required for a floor assembly between *suites*, and
- (b) an area providing not less than 1.5 m² per *suite* occupant, based on *occupant load*, and a minimum dimension of 1 200 mm.

3.3.4.5. Automatic Locking Prohibition

(1) Except for *hotels*, a door opening onto a *public corridor* which provides *access to exit* from a *suite* shall be designed not to lock automatically.

3.3.4.6. Sound Transmission

(1) Sound transmission class ratings shall be determined in accordance with ASTM E413, "Classification for Rating Sound Insulation", using results from measurements in accordance with

- (a) ASTM E90, "Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions", or
- (b) ASTM E336, "Test Method for Measurement of Airborne Sound Insulation in Buildings".

(2) Except as required by Sentence (3), a *dwelling unit* shall be separated from every other space in the *building* in which noise may be generated by construction providing a sound transmission class rating not less than 50, measured in accordance with the standards referenced in Sentence (1).

(3) Construction separating a *dwelling unit* from an elevator hoistway or a refuse chute shall have a sound transmission class rating not less than 55, measured in accordance with the standards referenced in Sentence (1).

3.3.4.7. Stairs, Handrails and Guards for Dwelling Units

(1) Stairs, handrails and *guards* within a *dwelling unit* shall conform to the appropriate requirements in Section 9.8.

3.3.5. Industrial Occupancy

3.3.5.1. Scope

(1) This Subsection applies to *floor areas* or parts thereof used or intended for use as *industrial occupancies*.

3.3.5.2. Fire Extinguishing Systems

(1) In addition to other requirements in this Code for the installation of automatic fire extinguishing systems, an appropriate fire extinguishing system shall be installed in every *industrial occupancy floor area* to provide protection if required by

- (a) the Ontario Fire Code, or
- (b) the National Fire Code of Canada 1995, in the absence of provisions in the Ontario Fire Code.

3.3.5.3. Basements

(1) A *basement* shall not be used for the storage, manufacture or handling of volatile solids, liquids or gases that generate explosive air-vapour mixtures or for processes that involve explosive dusts.

(2) Entrances and *exits* to a *basement* and to rooms containing *building services* shall be separate from the remainder of the *building* in a *building* in which

- (a) the storage, manufacture or handling of volatile materials can generate explosive air-vapour mixtures, or
- (b) processes occur that produce explosive dusts.

(3) *Basements* and rooms referred to in Sentence (2) shall be separated from the remainder of the *building* with a vapour-tight separation.

3.3.5.4. Repair and Storage Garages

(1) If access is provided from a *storage garage* to a stair tower or elevator serving *occupancies* above the level of the *storage garage*, the access shall be through a vestibule conforming to Sentence 3.3.5.7.(3).

(2) Treads and landings in interior stairs that extend to the roof of a *storage garage* shall be designed to be free of accumulations of ice and snow.

(3) A mechanical *storage garage* not more than 4 *storeys* in *building height*, in which no persons other than parking attendants are permitted above the *street* floor level, need not have a *fire separation* between the *exits* and the remainder of the *building*.

(4) A *garage* shall be provided with natural or mechanical ventilation in conformance with the requirements of Subsection 6.2.2. to prevent excessive accumulation of carbon monoxide, exhaust fumes or flammable and toxic vapours.

(5) The clear height in a *storage garage* shall be not less than 2 000 mm.

(6) A continuous curb not less than 150 mm high and a guard not less than 1 070 mm high shall be provided at every *garage floor opening* and around the perimeter of every floor where the exterior walls are omitted.

(7) Except for *open-air storeys*, every *storey* of a *storage garage* or *repair garage* located below *grade* shall be *sprinklered*.

3.3.5.5. Repair Garage Separation

(1) A *repair garage* and any ancillary spaces serving it, including waiting rooms, reception rooms, tool and parts storage areas and supervisory office space, shall be separated from other *occupancies* by a *fire separation* having a *fire-resistance rating* not less than 2 h.

3.3.5.6. Storage Garage Separation

(1) Except as permitted by Sentences 3.3.4.2.(4) and (5), a *storage garage* shall be separated from other *occupancies* by a *fire separation* with a *fire-resistance rating* not less than 1.5 h.

3.3.5.7. Vestibules

(1) If access is provided through a *fire separation* between a *storage garage* and a Group A, Division 1 or Group B *occupancy*, the access shall be through a vestibule conforming to Sentence (3).

(2) In a *building* more than 3 *storeys* in *building height*, access through a *fire separation* between a *storage garage* and a Group A, Division 2, 3 or 4, or a Group C *occupancy*, shall be through a vestibule conforming to Sentence (3).

(3) If access is provided through a vestibule, as required by Sentences (1), (2) and 3.3.5.4.(1), the vestibule shall

- (a) be not less than 1 800 mm long,
- (b) be ventilated
 - (i) naturally to outside air by a vent that has an unobstructed area of not less than 0.1 m² for each door that opens into the vestibule but not less than 0.4 m², or
 - (ii) mechanically at a rate of 14 m³/h for each square metre of vestibule floor surface area, and
- (c) have openings between the vestibule and an adjoining *occupancy* provided with self-closing doors with no hold-open devices.

3.3.5.8. Reserved

3.3.5.9. Reserved

3.3.5.10. Toe-Boards Required

(1) Where tools or other objects could fall from the floor of an upper level to a lower level in a room or space intended for use as a Group F *occupancy*, the edge of the floor at the upper level shall be provided with a toe-board extending from the floor surface to a height at least 125 mm above the floor surface.

Section 3.4. Exits

3.4.1. General

3.4.1.1. Scope

(1) *Exit* facilities complying with this Section shall be provided from every *floor area* which is intended for *occupancy*.

3.4.1.2. Separation of Exits

(1) Except as permitted by Sentence (2), if more than one *exit* is required from a *floor area*, each *exit* shall be separate from every other *exit* leading from that *floor area*.

(2) If more than 2 *exits* are provided from a *floor area*, *exits* are permitted to converge in conformance with Sentence 3.4.3.2.(2), provided the cumulative capacity of the converging *exits* does not contribute more than 50% of the total required *exit* width for the *floor area*.

3.4.1.3. Access to Exits

(1) *Access to exits* shall conform to Section 3.3.

3.4.1.4. Types of Exit

(1) Subject to the requirements of this Section, an *exit* from any *floor area* shall be one of the following, used singly or in combination:

- (a) an exterior doorway,
- (b) an exterior passageway,
- (c) an exterior ramp,
- (d) an exterior stairway,
- (e) a fire escape (conforming to Subsection 3.4.7.),
- (f) a *horizontal exit*,
- (g) an interior passageway,
- (h) an interior ramp, or
- (i) an interior stairway.

3.4.1.5. Exterior Exit Passageways

(1) Access to an exterior *exit* passageway from a *floor area* shall be through *exit* doors at the floor level.

(2) Every exterior *exit* passageway which has a drop of more than 500 mm on any side shall have *guards* on the open sides not less than 1 070 mm high.

3.4.1.6. Restricted Use of Horizontal Exits

(1) Except as permitted by Sentence (2), *horizontal exits* shall not comprise more than one half of the required number of *exits* from any *floor area*.

(2) In a hospital or nursing home, *horizontal exits* serving patients' or residents' sleeping rooms shall comprise not more than two thirds of the required number of *exits* from any *floor area*.

(3) Where an elementary or secondary school is subdivided by a *firewall*, a *horizontal exit* shall not serve as an *exit* but is permitted to serve as an *access to exit*.

3.4.1.7. Slide Escapes

(1) A slide escape shall not be erected on any *building* as a required *exit*, but is permitted to be provided as an additional egress facility if unusual hazards are foreseen.

3.4.1.8. Transparent Doors and Panels

(1) Glass and transparent panels in an *exit* shall conform to the appropriate requirements of Article 3.3.1.18. for glass and transparent panels in an *access to exit*.

3.4.1.9. Mirrors near Exits

(1) No mirror shall be placed in or adjacent to any *exit* in a manner that would confuse the direction of *exit*.

3.4.1.10. Combustible Glazing in Exits

(1) *Combustible* glazing is not permitted in wall or ceiling assemblies or in *closures* used to construct an *exit* enclosure.

3.4.1.11. Exterior Stairway for Nursing Home

(1) No open exterior stairway shall serve as a *means of egress* for residents above the second floor of a nursing home.

3.4.2. Number and Location of Exits from Floor Areas**3.4.2.1. Minimum Number of Exits**

(1) Except as permitted by Sentences (2) to (4) and (6), every *floor area* intended for *occupancy* shall be served by at least 2 *exits*.

(2) A *floor area* in a *building* not more than 2 storeys in *building height*, is permitted to be served by one *exit* provided the total *occupant load* served by the *exit* is not more than 60, and

- (a) in a *floor area* that is not *sprinklered*, the *floor area* and the travel distance are not more than the values in Table 3.4.2.1.A., or
- (b) in a *floor area* that is *sprinklered*,

(i) the travel distance is not more than 25 m, and

(ii) the *floor area* is not more than the value in Table 3.4.2.1.B.

Table 3.4.2.1.A.

Criteria for One Exit, Floor Area not Sprinklered

Forming Part of Sentence 3.4.2.1.(2)

| Occupancy of Floor Area | Maximum Floor Area, m ² | Maximum Travel Distance, m |
|-------------------------|------------------------------------|----------------------------|
| Group A | 150 | 15 |
| Group C | 125 | 25 |
| Group D | 200 | 25 |
| Group E | 200 | 25 |
| Group F, Division 2 | 200 | 25 |
| Group F, Division 3 | 200 | 25 |
| Column 1 | 2 | 3 |

Table 3.4.2.1.B.

Criteria for One Exit, Floor Area Sprinklered

Forming Part of Sentence 3.4.2.1.(2)

| Occupancy of Floor Area | Maximum Floor Area, m ² |
|-------------------------|------------------------------------|
| Group A | 200 |
| Group B | 100 |
| Group C | 150 |
| Group D | 300 |
| Group E | 200 |
| Group F, Division 2 | 200 |
| Group F, Division 3 | 300 |
| Column 1 | 2 |

(3) Except as permitted by Sentence (4), if Sentence (2) permits a single exit from a floor area classified as Group B or Group C occupancy, the exit shall be an exterior doorway not more than 1 500 mm above adjacent ground level.

(4) A floor area containing only dwelling units having access to exit conforming to Sentences 3.3.4.4.(1) to (4) need not comply with Sentences (1) or (3).

(5) Exits are not required directly from rooftop enclosures that are provided with access to exits in conformance with Sentences 3.3.1.3.(5) and (6).

(6) Every room containing an assembly occupancy serving a hotel, and located in the building containing the hotel, shall be provided with not less than

(a) 3 separate egress doorways from the room where the occupant load is more than 600 persons, and

(b) 4 separate egress doorways from the room where the occupant load is more than 1000 persons.

(7) Each egress doorway in Sentence (6) shall be considered as contributing not more than

(a) one third of the required width where 3 egress doorways are required, and

(b) one fourth of the required width where 4 egress doorways are required.

3.4.2.2. Mezzanine Exiting

(1) Except as permitted by Sentences (2), (3) or (4), a mezzanine shall be provided with exits on the same basis as required for floor areas by this Section.

(2) A mezzanine need not conform to Sentence (1) provided Article 3.2.8.1. does not require it to terminate at a vertical fire separation.

(3) In a floor area that is not sprinklered, a mezzanine need not conform to Sentence (1) where Article 3.2.8.1. does require it to terminate at a vertical fire separation provided the total occupant load of the mezzanine is not more than 60 and

(a) the area of the mezzanine does not exceed the area limits for rooms and suites in Table 3.3.1.5.A., and

(b) the distance limits in Table 3.3.1.5.A. are not exceeded from any point on the mezzanine to

(i) the egress doorway from the room in which the mezzanine is located if that room has a single egress doorway, or

(ii) an egress facility leading from the mezzanine if the room in which the mezzanine is located has 2 egress doorways provided in conformance with Subsection 3.3.1.

(4) In a floor area that is sprinklered, a mezzanine need not conform to Sentence (1) where Article 3.2.8.1. does require it to terminate at a vertical fire separation provided the total occupant load of the mezzanine is not more than 60 and

(a) the area of the mezzanine does not exceed the area limits for rooms and suites in Table 3.3.1.5.B., and

(b) the distance of travel is not more than 25 m when measured from any point on the mezzanine to

(i) the egress doorway from the room in which the mezzanine is located if that room has a single egress doorway, or

(ii) an egress facility leading from the mezzanine if the room in which the mezzanine is located has 2 egress doorways provided in conformance with Subsection 3.3.1.

3.4.2.3. Distance between Exits

(1) Except for a floor area that is divided so that not less than one third of the floor area is on one side of a fire separation and it is necessary to pass through the fire separation to travel from one exit to another exit, the least distance between 2 required exits from a floor area shall be

(a) one half the maximum diagonal dimension of the floor area, but need not be more than 9 m for a floor area having a public corridor, or

(b) one half the maximum diagonal dimension of the floor area, but not less than 9 m for all other floor areas.

(2) The minimum distance between exits referred to in Sentence (1) shall be the shortest distance that smoke would have to travel between the exits, assuming that the smoke will not penetrate an intervening fire separation.

3.4.2.4. Travel Distance

(1) Except as permitted by Sentence (2), for the purposes of this Subsection, travel distance means the distance from any point in the floor area to an exit measured along the path of travel to the exit.

(2) The travel distance from a suite or a room not within a suite is permitted to be measured from an egress door of the suite or room to the nearest exit provided

(a) the suite or room is separated from the remainder of the floor area by a fire separation

(i) having a fire-resistance rating not less than 45 min in a floor area that is not sprinklered, or

(ii) which is not required to have a fire-resistance rating, in a floor area that is sprinklered, and

(b) the egress door opens onto

(i) an exterior passageway,

- (ii) a corridor used by the public that is separated from the remainder of the *floor area* in conformance with the requirements in Article 3.3.1.4. for the separation of *public corridors*, or

- (iii) a *public corridor* that is separated from the remainder of the *floor area* in conformance with Article 3.3.1.4.

(3) Travel distance to an *exit* shall be not more than 50 m from any point in a *service space* referred to in Sentence 3.2.1.1.(7).

(4) If there is a *firewall* in an elementary or secondary school, the travel distance shall not be measured to a door in the *firewall*, but shall be measured to an exterior *exit* door or an *exit* door to a stairway.

3.4.2.5. Location of Exits

(1) Except as permitted by Sentences (2), (3) and 3.3.2.4.(6), if more than one *exit* is required from a *floor area*, the *exits* shall be located so that the travel distance to at least one *exit* shall be not more than

- (a) 25 m in a *high hazard industrial occupancy*,
- (b) 40 m in a *business and personal services occupancy*,
- (c) 45 m in a *floor area* that contains an *occupancy* other than a *high hazard industrial occupancy*, provided it is *sprinklered*,
- (d) 105 m in any *floor area*, served by a *public corridor*, in which rooms and *suites* are not separated from the remainder of the *floor area* by a fire separation, provided
 - (i) the *public corridor* is not less than 9 m wide,
 - (ii) the ceiling height in the *public corridor* is not less than 4 m above all floor surfaces,
 - (iii) the *building* is *sprinklered*, and
 - (iv) not more than one half of the required egress doorways from a room or *suite* open into the *public corridor* if the room or *suite* is required to have more than one egress doorway,
- (e) except as permitted by Sentence (5), 60 m in any *storage garage* that conforms to the requirements of Article 3.2.2.83., and
- (f) 30 m in any *floor area* other than those referred to in Clauses (a) to (e).

(2) Except for a *high hazard industrial occupancy*, Sentence (1) need not apply if *exits* are placed along the perimeter of the *floor area* and are not more than 60 m apart, measured along the perimeter, provided each main aisle in the *floor area* leads directly to an *exit*.

(3) If more than one *exit* is required, every *exit* shall be considered as contributing not more than one half of the required *exit* width.

(4) *Exits* shall be located and arranged so that they are clearly visible or their locations are clearly indicated and they are accessible at all times.

(5) Not more than 2 *exits* located remote from each other are required in a *storage garage* conforming to Article 3.2.2.83. provided persons other than parking attendants are not permitted above the *street* floor level.

3.4.3. Width and Height of Exits

3.4.3.1. Exit Width

(1) The aggregate width of required *exits* shall be not less than the value determined in conformance with Sentence (2) and Articles 3.4.3.2. to 3.4.3.5.

(2) The required width of an *exit* shall be not less than

- (a) 1 100 mm for
 - (i) corridors and passageways, and
 - (ii) stairs and ramps that serve more than 3 *storeys* above *grade* or more than one *storey* below *grade*,
- (b) 900 mm for stairs and ramps that serve not more than 3 *storeys* above *grade* or not more than one *storey* below *grade*,
- (c) 1 650 mm for stairs and ramps serving patients' or residents' sleeping rooms in a Group B, Division 2 or 3 *occupancy*,
- (d) 1 050 mm for doorways serving patients' or residents' sleeping rooms, and
- (e) 790 mm for doorways not serving patients' or residents' sleeping rooms.

(3) Except as required by Article 3.4.3.3., the required *exit* width need not be cumulative in an *exit* serving 2 or more *floor areas* located one above the other.

3.4.3.2. Exit Width Based on Occupant Load

(1) For the purpose of determining aggregate width of required *exits*, the *occupant load* of every room or *floor area* shall be determined in conformance with Subsection 3.1.16.

(2) Except as permitted by Sentence 3.4.3.1.(3), the required *exit* width shall be cumulative if 2 or more *exits* converge.

3.4.3.3. Exits from Interconnected Floor Space

(1) The required *exit* width for an *exit* stair in an assembly hall or *theatre* serving more than one balcony level shall conform to the appropriate requirements for stairs serving *interconnected floor spaces* in Article 3.2.8.4.

(2) *Exit* stairs that serve *interconnected floor spaces* as provided in Articles 3.2.8.3. to 3.2.8.11. shall conform to the requirements in Article 3.2.8.4. and in this Section.

3.4.3.4. Exit Capacity

(1) Except as permitted by Sentence (3), the aggregate required width of *exits* serving *floor areas* intended for *assembly occupancies*, *residential occupancies*, *business and personal services occupancies*, *mercantile occupancies*, and *industrial occupancies* shall be determined by multiplying the *occupant load* of the area served by

- (a) 6.1 mm per person for ramps with a slope not more than 1 in 8, doorways, corridors and passageways,
- (b) 8 mm per person for a stair consisting of steps whose rise is not more than 180 mm and whose run is not less than 280 mm, or
- (c) 9.2 mm per person for
 - (i) ramps with a slope more than 1 in 8, or

- (ii) stairs, other than stairs conforming to Clause (b).

(2) The aggregate required width of *exits* serving *floor areas* intended for *care or detention occupancy* shall be determined by multiplying the occupant load of the area served by 18.4 mm per person.

(3) The required width of *means of egress* serving a Group A, Division 4 *occupancy* shall be determined by multiplying the *occupant load* of the area served by

- (a) 1.8 mm per person for

- (i) aisles,

- (ii) stairs other than *exit* stairs, and

- (iii) ramps and passageways in vomitories and *exits*, and

- (b) 2.4 mm per person for *exit* stairs.

3.4.3.5. Exit Width Reduction

(1) Except as permitted by Sentences (2) to (4), no fixture, turnstile or construction shall project into or be fixed within the required width of an *exit*.

(2) *Exit* doors shall be hung so that, when open, they shall neither diminish nor obstruct the required width of the *exit* by more than 50 mm for each door leaf.

(3) Swinging doors in their swing shall not reduce the required width of *exit* stairs or landings to less than 750 mm or reduce the width of an *exit* passageway to less than the minimum required width.

(4) Handrails and construction below handrails are permitted to project into the required width of *means of egress* but the projections shall be not more than 100 mm on each side of the required width.

(5) In an elementary or secondary school, where a stair lift is installed in an *exit* stair, an intermediate handrail shall be installed between the path of travel of the stair lift and the remainder of the stair to ensure that the stair lift will not reduce the required width of the *exit* stair.

3.4.3.6. Headroom Clearance

(1) Except as permitted by Sentences (2) to (4), every *exit* shall have a headroom clearance of not less than 2 100 mm.

(2) The headroom clearance for stairways measured vertically above any landing or the nosing of any stair tread shall be not less than 2 050 mm.

(3) The headroom clearance for doorways shall be not less than 2 030 mm.

(4) No door closer or other device shall be installed so as to reduce the headroom clearance of a doorway to less than 1 980 mm.

3.4.4. Fire Separation of Exits

3.4.4.1. Fire-Resistance Rating of Exit Separations

(1) Except as permitted by Sentences (2), (4), 3.3.5.4.(3), 3.4.4.2.(2) and 3.4.4.3.(1), every *exit* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than that required by Subsection 3.2.2., but not less than 45 min, for

- (a) the floor assembly above the *storey*, or

- (b) the floor assembly below the *storey*, if there is no floor assembly above.

(2) The *fire-resistance rating* of the *fire separation* referred to in Sentence (1) need not be more than 2 h.

(3) If an *exit* stair in an assembly hall or *theatre* serves more than one balcony level, the *exit* stair shall be separated from the remainder of the *building* in conformance with Sentence (1).

(4) The path of *exit* travel may lead from an *exit* door or *exit* enclosure through *open air* parking that is located below a roof or floor assembly that is part of the *building* served by the *exit* door or *exit* enclosure where

- (a) the portion of the path of *exit* travel that leads through the *open air* parking is not more than 9 m in length measured from the *exit* door to a point at ground level at the perimeter of the *building*,
- (b) measures are taken to prevent vehicles intended to park in spaces adjacent to the path of *exit* travel from encroaching on the path of *exit* travel, and
- (c) an alternate *means of egress* not leading through the *open air* parking is available from the interior side of the door opening onto the path of *exit* travel through the *open air* parking area.

3.4.4.2. Exits through Lobbies

(1) Except as permitted by Sentence (2), no *exit* from a *floor area* above or below the *first storey* shall lead through a lobby.

(2) Not more than one *exit* from a *floor area* is permitted to lead through a lobby provided

- (a) the lobby floor is not more than 4.5 m above *grade*,
- (b) the path of travel through the lobby to the outdoors is not more than 15 m,
- (c) the adjacent rooms or premises having direct access to the lobby do not contain a *residential occupancy* or an *industrial occupancy*, except that *dwelling units* may open directly onto the lobby where
 - (i) from the interior of the *exit* stair which opens onto the lobby there is alternate *means of egress* not leading through the lobby and such *means of egress* is entirely within the same *storey* as the lobby, or

- (ii) the *floor area* is *sprinklered*.

(d) except as required by Clause (g), the lobby is not located within an *interconnected floor space* other than as described in Sentence 3.2.8.2.(6),

(e) the lobby conforms to the requirements for *exits*, except that

- (i) rooms other than *service rooms* and storage rooms are permitted to open onto the lobby,
 - (ii) the *fire separation* between the lobby and a room used for the sole purpose of control and supervision of the building need not have a *fire-resistance rating*, and

(iii) the *fire separation* between the lobby and adjacent *occupancies* that are permitted to open onto the lobby need not have a *fire-resistance rating* provided the lobby and adjacent *occupancies* are *sprinklered*,

(f) a *fire separation*, constructed in accordance with Sentence 3.4.4.1.(1), is maintained between the lobby and any *exit* permitted by this Sentence to lead through the lobby, and

- (g) that if the *exit* serves a *hotel*, the lobby is not located within an *interconnected floor space*.

3.4.4.3. Exterior Passageway Exceptions

- (1) The requirements of Sentences 3.4.4.1.(1) and 3.2.3.12.(1) and (3) do not apply to an exterior *exit* passageway provided

- (a) not less than 50% of the exterior side is open to the outdoors, and
- (b) an *exit* stair is provided at each end of the passageway.

3.4.4.4. Integrity of Exits

- (1) A *fire separation* that separates an *exit* from the remainder of the *building* shall have no openings except for

- (a) standpipe and sprinkler piping,
- (b) electrical wires and cables, totally enclosed *noncombustible* raceways and *noncombustible* piping that serve only the *exit*,
- (c) openings required by the provisions of Subsection 3.2.6.,
- (d) *exit* doorways, and
- (e) wired glass and glass block permitted by Article 3.1.8.14.

- (2) *Exits* within scissors stairs and other contiguous *exit* stairways shall be separated from each other by a smoke-tight *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly through which they pass.

- (3) *Fire separations* separating contiguous stairs described in Sentence (2) shall not be pierced by doorways, ductwork, piping or any other openings that affect the continuity of the separation.

- (4) A fuel-fired *appliance* shall not be installed in an *exit*.

- (5) An *exit* shall not be used as a *plenum* for a heating, ventilating or air-conditioning system.

- (6) An *exit* shall be designed for no purpose other than for exiting, except that an *exit* is permitted also to be designed to serve as an access to a *floor area*.

- (7) A *service room* shall not open directly into an *exit*.

- (8) Storage rooms, washrooms, toilet rooms, laundry rooms and similar ancillary rooms shall not open directly into an *exit*.

- (9) *Service spaces* referred to in Sentence 3.2.1.1.(7) shall not open directly into an *exit*.

- (10) In elementary and secondary schools, an *exit* shall be designed so that it does not serve as an access from one portion of a *floor area* to another portion of the same *floor area*.

3.4.5. Exit Signs

3.4.5.1. Exit Signage

- (1) Except as required by Sentence (7), every *exit* door other than the main entrance to a room or *building* shall have an *exit* sign placed over or adjacent to it if the *exit* serves

- (a) a *building* more than 2 storeys in *building height*,
- (b) a *building* having an *occupant load* more than 150, or

- (c) a room or *floor area* that has a fire escape as part of a required *means of egress*.

- (2) Except as provided in Sentence (9), every *exit* sign shall

- (a) be visible from the *exit* approach,
- (b) have the word EXIT or the words EXIT/SORTIE displayed in plain legible letters, and
- (c) be illuminated continuously while the *building* is occupied.

- (3) *Exit* signs shall consist of red letters on a contrasting background or a red background with contrasting letters, with the letters having a 19 mm stroke and a height not less than

- (a) 114 mm when internally illuminated, and
- (b) 150 mm when externally illuminated.

- (4) If illumination of an *exit* sign is provided from an electrical circuit, that circuit shall

- (a) serve no equipment other than emergency equipment, and
- (b) be connected to an emergency power supply as described in Sentence 3.2.7.4.(1)

- (5) If necessary, the direction of egress in *public corridors* and passageways shall be indicated by a sign conforming to Sentences (2), (3) and (4) with a suitable arrow or pointer indicating the direction of egress.

- (6) Except for egress doorways described in Sentence 3.3.2.3.(4) and except for the main entrance door, an *exit* sign conforming to Sentences (2), (3) and (4) shall be placed over or adjacent to every egress doorway from rooms with an *occupant load* more than 60 in Group A, Division 1 *occupancies*, dance halls, licensed beverage establishments and other similar *occupancies* that, when occupied, have lighting levels below that which would provide easy identification of the egress doorway.

- (7) Except for *suite* doors opening directly to the exterior, every *exit* serving a *hotel* shall have an *exit* sign placed over or adjacent to it.

- (8) If an *exit* sign having the word EXIT is installed in conformance with this Article, an additional sign displaying the word SORTIE is permitted to be installed.

3.4.5.2. Signs within Exit Facilities

- (1) In a *building* more than 2 storeys in *building height*, any part of an *exit* ramp or stair that continues past an exterior *exit* door down to a *basement* shall be clearly marked.

- (2) An *exit* stair serving a *building* more than 6 storeys in *building height* shall be clearly marked by signs indicating that it does not lead to an *exit* at the roof level.

3.4.6. Types of Exit Facilities

3.4.6.1. Slip Resistance of Ramps and Stairs

- (1) The surfaces of ramps, landings and treads
- (a) shall have a finish that is slip resistant, and
- (b) if accessible to the public, shall have either a colour contrast or a distinctive pattern to demarcate the leading edge of the tread and the leading edge of the landing, as well as the beginning and end of a ramp.

(2) Treads and landings of exterior *exit* stairs shall be designed to be free of ice and snow accumulations if the stairs

- (a) are more than 10 m high, or
- (b) serve a *hotel*.

3.4.6.2. Minimum Number of Risers

(1) Except as permitted by Sentence 3.3.2.13.(1), every flight of interior stairs shall have not less than 3 risers.

3.4.6.3. Landings and Maximum Vertical Rise of Stair Flights

(1) No flight of stairs shall have a vertical rise of more than 3.7 m between floors or landings, except that a flight of stairs serving as an *exit* in a Group B, Division 2 or 3 *occupancy* shall have a vertical rise not more than 2 400 mm between floors or landings.

(2) Except as provided in Sentence (6), the length and width of a landing shall be at least the width of the stairway in which it occurs, except that in a straight run the length of the landing need not be more than 1 100 mm.

(3) Where a doorway or stairway empties onto a ramp through a side wall, there shall be a level area extending across the full width of the ramp, and for a distance of 300 mm on either side of the wall opening, or on one side if the opening abuts on an end wall.

(4) Where a doorway or stairway empties onto a ramp through an end wall, there shall be a level area extending across the full width of the ramp and along its length for not less than 900 mm.

(5) A landing shall be provided at the top and bottom of every flight of stairs.

(6) Where the direction of *exit* travel changes at a landing, the landing is permitted to be chamfered or curved in plan, provided the required width of the stair is maintained where measured perpendicular to the direction of *exit* travel across the landing.

3.4.6.4. Handrails

(1) An *exit* ramp or stairway shall have a handrail on at least one side, and if 1 100 mm or more in width, shall have handrails on both sides.

(2) If the required width of a ramp or flight of stairs is more than 2 200 mm, one or more intermediate handrails continuous between landings shall be provided, and located so that there will be not more than 1 650 mm between handrails.

(3) Handrails shall be continuously graspable along their entire length and shall have

- (a) a circular cross-section with an outside diameter not less than 30 mm and not more than 50 mm, or
- (b) any non-circular shape with a graspable portion that has a perimeter not less than 100 mm and not more than 155 mm and whose largest cross-sectional dimension is not more than 57 mm.

(4) Handrails on stairs and ramps shall be not less than 865 mm and not more than 965 mm high, measured vertically from a line drawn through the outside edges of the stair nosing or from the surface of the ramp, except that handrails not meeting these requirements are permitted provided they are installed in addition to the required handrail.

(5) Except as required by Sentence (10), at least one handrail shall be continuous throughout the length of the stairway, including landings, except where interrupted by doorways or newels at changes in direction.

(6) Handrails shall be terminated in a manner which will not obstruct pedestrian travel or create a hazard.

(7) At least one handrail at the side of a stairway or ramp shall extend horizontally not less than 300 mm beyond the top and bottom of the stairway or ramp.

(8) A clearance of not less than 40 mm shall be provided between a handrail and any wall to which it is fastened.

(9) Handrails and their supports shall be designed and constructed to withstand the loading values obtained from the nonconcurrent application of

- (a) a concentrated load not less than 0.9 kN applied at any point and in any direction for all handrails, and
- (b) a uniform load not less than 0.7 kN/m applied in any direction to handrails not located within *dwelling units*.

(10) In a nursing home, a home for the aged and a Group B, Division 3 *occupancy*, a continuous handrail shall be provided on both sides of a stairway throughout the length of the stairway, including landings, except where a handrail is interrupted by doorways or newels at changes in direction.

3.4.6.5. Guards

(1) Every *exit* shall have a wall or a well-secured *guard* on each side.

(2) Except as required by Sentence (4), the height of *guards* for *exit* stairs shall be not less than 920 mm measured vertically to the top of the *guard* from a line drawn through the outside edges of the stair nosings and 1 070 mm around landings.

(3) *Exit* ramps and their landings shall be protected with *guards* not less than 1 070 mm measured vertically to the top of the *guard* from the ramp surface where the difference in elevation between the adjacent ground or floor level and the ramp is more than 600 mm.

(4) The height of *guards* for exterior stairs and landings more than 10 m above adjacent ground level shall be not less than 1 500 mm measured vertically to the top of the *guard* from a line drawn through the outside edges of the stair nosings.

(5) Except as provided in Sentence (6), openings through any *guard* which is required by Sentence (1) shall be of a size which will prevent the passage of a sphere having a diameter more than 100 mm unless it can be shown that the location and size of openings which exceed this limit do not represent a hazard.

(6) Openings through any *guard* which is required by Sentence (1) and which is installed in a *building of industrial occupancy* shall be of a size which will prevent the passage of a sphere having a diameter more than 200 mm unless it can be shown that the location and size of openings which exceed this limit do not represent a hazard.

(7) In a stairway, a window for which the distance measured vertically between the bottom of the window and a line drawn through the outside edges of the stair nosings is less than 900 mm, or a window that extends to less than 1 070 mm above the landing, shall

- (a) be protected by a *guard* that is
- (i) located approximately 900 mm above a line drawn through the outside edges of the stair nosings, or

(ii) not less than 1 070 mm high measured to the top of the guard from the surface of the landing, or

(b) be fixed in position and designed to resist the lateral design loads specified for *guards* and walls in Articles 4.1.10.1. and 4.1.10.3.

(8) Unless it can be shown that the location and size of openings do not present a hazard, a *guard* shall be designed so that no member, attachment or opening located between 140 mm and 900 mm above the level being protected by the *guard* will facilitate climbing.

3.4.6.6. Ramp Slope

(1) Except as required for aisles by Article 3.3.2.4., the maximum slope of a ramp shall be

- (a) 1 in 10 in any *assembly occupancy, care or detention occupancy or residential occupancy*,
- (b) 1 in 6 in rooms or *floor areas* classified as *mercantile occupancy or industrial occupancy*,
- (c) 1 in 8 in any other *floor area*, and
- (d) 1 in 10 for an exterior ramp.

3.4.6.7. Treads and Risers

(1) Except as permitted for *dwelling units* and by Sentence 3.4.7.5.(1) for fire escapes, steps for stairs shall have a run of not less than 255 mm and not more than 355 mm between successive steps.

(2) Steps for stairs referred to in Sentence (1) shall have a rise between successive treads not less than 125 mm and not more than 200 mm.

(3) Treads and risers in every *exit* stair, except a fire escape stair, shall have uniform run and rise in any one flight, and shall not alter significantly in run and rise in successive flights in any stair system.

(4) The leading edge of a stair tread shall have either a radius or a bevel between 8 mm and 13 mm in horizontal dimension.

(5) The front edge of stair treads in *exits* and public *access to exits* shall be at right angles to the direction of *exit* travel.

3.4.6.8. Curved Stairs

(1) Except as permitted by Sentence (2), tapered treads shall not be used in an *exit*.

(2) A curved stair used as an *exit* shall have

- (a) a handrail on each side,
- (b) treads with a minimum run of 240 mm exclusive of nosings,
- (c) treads that conform to Article 3.4.6.7. where they are measured 230 mm away from the handrail at the narrow end of the tread, and
- (d) an inside radius that is not less than twice the stair width.

3.4.6.9. Horizontal Exits

(1) Except in an elementary or secondary school which is subdivided by a *firewall*, the *floor area* on each side of a *horizontal exit* shall be sufficient to accommodate the occupants of both *floor areas*,

allowing not less than 0.5 m² of clear floor space per person, except that 1.5 m² shall be provided for each person in a wheelchair and 2.5 m² for each patient in bed.

(2) If vestibules, enclosed balconies or bridges are used as parts of a *horizontal exit*, their clear width shall be not less than that of the *exit* doorways opening into them, except that handrails are not permitted to project into this clear width more than 100 mm.

(3) In a *horizontal exit* where there is a difference in level between the connected *floor areas*, slopes not more than those specified for ramps in Article 3.4.6.6. are permitted to be used.

(4) No stairs or steps shall be used at a *horizontal exit*.

(5) If 2 doors are provided in a *horizontal exit* that comprises a part of the required number of *exits* from the *floor areas* on both sides of the *exit*

(a) the doors shall be mounted adjacent to each other with the door on the right side in the direction of travel through the *horizontal exit* swinging in the direction of travel through the *horizontal exit*, and

(b) signs shall be provided on each side of the *horizontal exit* to indicate the door that swings in the direction of travel from that side.

(6) If a *horizontal exit* utilizes bridges between *buildings* or outside balconies, the bridges or balconies shall conform to Article 3.2.3.18.

(7) Any change in floor level from one side of a *horizontal exit* to the other side shall not exceed 2 000 mm.

3.4.6.10. Doors

(1) The distance between a stair riser and the leading edge of a door during its swing shall be not less than 300 mm.

(2) No *exit* door shall open directly onto a step except that, if there is danger of blockage from ice or snow, an *exit* door is permitted to open onto not more than one step which shall be not more than 150 mm high.

(3) *Exit* doors shall be clearly identifiable.

(4) No door leaf in an *exit* doorway with more than one leaf shall be less than 600 mm wide.

3.4.6.11. Direction of Door Swing

(1) Except as permitted by Sentences (2), (3) and Article 3.4.6.13., every *exit* door shall

- (a) open in the direction of *exit* travel, and
- (b) swing on its vertical axis.

(2) A door serving a single *dwelling unit* shall swing on its vertical axis.

(3) Except in a *high hazard industrial occupancy*, an *exit* door need not swing in the direction of *exit* travel where it serves

- (a) a room, *suite* or *floor area* having an *occupant load* of not more than 60 persons, or
- (b) as part of a *means of egress* from more than one *floor area* and the *floor areas* so served have a total *occupant load* of not more than 60 persons.

3.4.6.12. Self-Closing Devices

- (1) An *exit* door that is normally required to be kept closed
 - (a) shall be provided with a self-closing mechanism, and
 - (b) shall not be secured in an open position except as permitted by Sentence 3.1.8.12.(1).

3.4.6.13. Sliding Doors

- (1) Except as permitted by Sentence (2) an *exit* door leading directly to outdoors at ground level is permitted to be a sliding door provided it is released in conformance with Sentence 3.3.1.11.(1).
- (2) An *exit* door serving a Group B, Division 1 *occupancy*, or an *impeded egress zone* in other *occupancies*, is permitted to be a sliding door that does not conform to Sentence 3.3.1.11.(1) provided it is designed to be released in conformance with Article 3.3.1.12.

3.4.6.14. Revolving Doors

- (1) Except as permitted by Sentence (3), a revolving door, if used, shall
 - (a) be collapsible,
 - (b) have hinged doors providing equivalent exiting capacity located adjacent to it,
 - (c) be used as an *exit* from the ground floor level only,
 - (d) be not less than 3 m from the foot of any stairway, and
 - (e) have all glass in door leaves and enclosure panels conforming to
 - (i) CAN/CGSB-12.1-M, "Tempered or Laminated Safety Glass", or
 - (ii) CAN/CGSB-12.11-M, "Wired Safety Glass".
- (2) Except as permitted by Sentence (3), a revolving door shall not be considered to have an exiting capacity for more than 45 persons.
- (3) An electrically powered revolving door is not required to conform to Sentences (1) and (2) provided
 - (a) the door leaves will collapse and stop automatic rotation of the door system and not obstruct the doorway if a force not more than that specified in Sentence 3.4.6.15.(2) is applied at the centre of a door leaf,
 - (b) the door leaves are capable of being opened from inside the *building* without requiring keys, special devices, or specialized knowledge of the door opening mechanism,
 - (c) the allowable exiting capacity is based on the clear width of passage through the door enclosure when the doors are fully collapsed,
 - (d) a permanent sign, whose centreline is between 1 000 mm and 1 500 mm above the floor, is placed on each face of each door leaf indicating the method for collapsing the door leaf in an emergency, and
 - (e) glass used for door leaves and enclosure panels is safety glass conforming to

(i) CAN/CGSB-12.1-M, "Tempered or Laminated Safety Glass", or

(ii) CAN/CGSB-12.11-M, "Wired Safety Glass".

3.4.6.15. Door Release Hardware

(1) Except for *dwelling units*, and except for devices on doors serving a *contained use area* or an *impeded egress zone* designed to be released in conformance with Article 3.3.1.12., and except as permitted by Sentence (4), locking, latching and other fastening devices on every *exit* door shall permit the door to be readily opened from the inside with not more than one releasing operation and without requiring keys, special devices or specialized knowledge of the door opening mechanism.

(2) If a door is equipped with a latching mechanism, a device that will release the latch and allow the door to swing wide open when a force of not more than 90 N is applied to the device in the direction of travel to the *exit* shall be installed on

- (a) every *exit* door from a *floor area* containing an *assembly occupancy* having an *occupant load* more than 100,
- (b) every door leading to an *exit* lobby from an *exit* stair shaft, and every exterior door leading from an *exit* stair shaft in a *building* having an *occupant load* more than 100, and
- (c) every *exit* door from a *floor area* containing a *high hazard industrial occupancy*.

(3) Except as required by Sentence 3.8.3.3.(7), every *exit* door shall be designed and installed so that, when the latch is released, the door will open under a force of not more than 90 N, applied at the knob or other latch releasing device.

(4) Electromagnetic locks that do not incorporate latches, pins or other similar devices to keep the door in the closed position are permitted to be installed on *exit* doors other than doors described in Sentence (5) provided

- (a) the *building* is equipped with a fire alarm system conforming to Subsection 3.2.4.,
- (b) the locking device, and all similar devices in the *access to exit* leading to the *exit* door, are installed as ancillary devices to the fire alarm system and release immediately upon activation of
 - (i) the *alarm signal* where a single stage fire alarm system is installed,
 - (ii) except as provided in Subclause (iii), the *alert signal* where a 2 stage fire alarm system is installed, or
 - (iii) the *alarm signal* of a 2 stage fire alarm system installed in a *care or detention occupancy*,
- (c) the locking device releases immediately upon loss of power to the fire alarm control panel or loss of power controlling the electromagnetic locking mechanism and its associated auxiliary controls,
- (d) the locking device releases immediately upon actuation of a manually operated switch readily accessible only to authorized personnel and located near the main entrance of the *building* or in the central alarm and control facility of Sentence 3.2.6.12.(1),
- (e) the locking device releases immediately upon a fault being detected in the electrical circuit between the fire alarm control panel and the controller of the locking device,

- (f) the locking device releases immediately upon the operation of a manual pull station for the fire alarm system located on the wall not more than 600 mm from the door,
- (g) a legible sign having the words **EMERGENCY EXIT UNLOCKED BY FIRE ALARM** is permanently mounted on the door,
- (h) the lettering on the sign required in Clause (g) is at least 25 mm high with a 5 mm stroke,
- (i) upon release, the locking device must be reset manually by the actuation of the switch referred to in Clause (d),
- (j) the operation of any by-pass switch, where provided for testing of the fire alarm system, causes an audible signal and a visual signal to be indicated at the fire alarm annunciator panel and at the monitoring station of Clauses 3.2.4.7.(4)(a), (b) or (c), and
- (k) emergency lighting is provided at the doors.

(5) Except as permitted in Sentence (6), electromagnetic locks are not permitted to be installed on *exit* doors

- (a) described in Clauses 3.4.6.15.(2)(a), (b) or (c),
- (b) serving an elementary or secondary school, or
- (c) leading directly from a *high hazard industrial occupancy*.

(6) Electromagnetic locks are permitted to be installed on an exterior door leading from an *exit* stairway in a *building* serving only a Group B, Division 2 *major occupancy* or a Group B, Division 3 *major occupancy*.

(7) Door hardware for the operation of the doors referred to in this Section shall be installed at a height not more than 1 200 mm above the finished floor.

3.4.6.16. Reserved

3.4.6.17. Emergency Access to Floor Areas

- (1) In a *building* more than 6 storeys in *building height*
 - (a) except as permitted by Sentence (3), doors providing access to *floor areas* from *exit* stairs shall not have locking devices to prevent entry into
 - (i) any *floor area* designated as an area of refuge,
 - (ii) *floor areas* located at intervals of 5 storeys or less, and
 - (iii) at least one of the three highest storeys,
 - (b) doors referred to in Clause (a) that provide access into the *floor area* shall be identified by a sign on the stairway side to indicate that they are openable from that side, and
 - (c) a master key to fit all door locking devices that are intended to prevent entry into a *floor area* from an *exit* stair shall be provided in a designated location accessible to firefighters, or the door shall be provided with a wired glass panel not less than 0.0645 m² in area and located not more than 300 mm from the door opening hardware.

(2) If access to *floor areas* through unlocked doors is required by Clause (1)(a) or through electromagnetically locked doors as permitted by Sentence (3), it shall be possible for a person entering the *floor area*

to have access through unlocked doors or through electromagnetically locked doors within the *floor area* to at least one other *exit*.

(3) Electromagnetic locking devices may be installed on the doors providing access to *floor areas* from *exit* stairs as required by Clause (1)(a), provided all locking device release and signage provisions in Sentence 3.4.6.15.(4) are installed on both sides of the doors.

(4) In a *building* not more than 6 storeys in *building height*, doors providing access from *exit* stairs to a *floor area* containing a *hotel* are permitted to have locking devices to prevent entry into the *floor area* provided the requirements in Clause (1)(c) are complied with.

3.4.6.18. Floor Numbering

- (1) Arabic numerals indicating the assigned floor number shall
 - (a) be mounted permanently on each side of doors to *exit* stair shafts,
 - (b) be not less than 60 mm high, raised approximately 0.7 mm above the surface,
 - (c) be located 1 500 mm from the finished floor, and
 - (d) be contrasting in colour with the surface to which they are applied.

(2) Upper case letters indicating the designation assigned to each *exit* stair shaft shall be mounted permanently on each side of doors to the *exit* stair shaft and shall

- (a) be not less than 60 mm high, raised approximately 0.7 mm above the surface,
- (b) be located 1 500 mm from the finished floor, and
- (c) be contrasting in colour with the surface on which they are applied.

3.4.7. Fire Escapes

3.4.7.1. Scope

(1) Except as permitted by Sentence (2), fire escapes shall not be erected on a *building*.

(2) If it is impracticable to provide one or more of the *exit* facilities listed in Article 3.4.1.4., fire escapes conforming to Articles 3.4.7.2. to 3.4.7.7. are permitted to serve *floor areas* in an existing *building* provided the *floor areas* served are

- (a) not in an elementary or secondary school,
- (b) not more than 2 storeys above ground level in *care or detention occupancies*, and
- (c) not more than 5 storeys above ground level in other *occupancies*.

3.4.7.2. Fire Escape Construction

(1) Fire escapes shall be of metal or concrete, of the stair type extending to ground level, constructed throughout in a strong substantial manner and securely fixed to the *building*, except that wooden fire escapes are permitted to be used on *buildings* of *combustible construction* if all posts and brackets are not less than 89 mm in their least dimension and all other woodwork is not less than 38 mm in its least dimension.

3.4.7.3. Access to Fire Escapes

(1) Access to fire escapes shall be from corridors through doors at floor level, except that access from a *dwelling unit* is permitted to be

through a casement window having an unobstructed opening not less than 1 100 mm high by 550 mm wide with a sill height of not more than 900 mm above the inside floor.

(2) The clear area of a fire escape balcony onto which a door opens, shall be not less than 1 m².

3.4.7.4. Protection of Fire Escapes

(1) If a fire escape serves any *storey* above the second, openings located in a zone described in Sentence (2), including access doorways in the exterior walls of the *building* to which the fire escape is attached, shall be protected by *closures* conforming to Subsection 3.1.8.

(2) The zone referred to in Sentence (1) extends from any balcony, platform or stairway of a fire escape to a distance

- (a) 3 m horizontally,
- (b) 10 m below, and
- (c) 1 800 mm above.

3.4.7.5. Stairs

(1) Stairs shall be inclined at an angle of not more than 45° with the horizontal, and their steps shall have risers not more than 210 mm high and treads not less than 220 mm wide exclusive of nosing.

(2) Stairway headroom shall be not less than 1 950 mm plus the height of one riser measured vertically above the nosing of any tread or platform.

(3) The width of a fire escape shall conform to Sentence 3.4.3.1.(1), except that the width is permitted to be reduced to 550 mm provided the fire escape serves

- (a) not more than 3 *storeys*, and
- (b) not more than 15 persons.

(4) If a flight of stairs leading to the ground at the foot of a fire escape is not fixed in position, it shall

- (a) be held in the raised position without a latch or locking device,
- (b) be fitted with a counterbalancing device,
- (c) be easily and quickly brought into position for use, and
- (d) reach the ground in the lowered position.

3.4.7.6. Guards and Railings

(1) The open sides of every platform, balcony and stairway forming part of a fire escape shall be protected by *guards* not less than 920 mm high measured vertically above the nosing of any tread or platform.

(2) The top rail of a *guard* is permitted to serve as a handrail if it is free from obstructions which could break a handhold.

(3) A wall handrail shall be installed if the fire escape is more than 550 mm wide.

(4) Openings through any *guard* which is required by Sentence (1) shall be of a size which will prevent the passage of a sphere having a

diameter more than 100 mm unless it can be shown that the location and size of openings which exceed this limit do not represent a hazard.

(5) Unless it can be shown that the location and size of openings do not present a hazard, a *guard* for a fire escape shall be designed so that no member, attachment or opening located between 140 mm and 900 mm above a platform or the nosing of any tread will facilitate climbing.

3.4.7.7. Landings

(1) Platforms for a fire escape shall be provided in conformance with the requirements for stair landings in Article 3.4.6.3.

Section 3.5. Vertical Transportation

3.5.1. General

3.5.1.1. Scope

(1) This Section applies to vertical transportation facilities installed in a *building*, including elevators, escalators and dumbwaiters.

(2) Elevators in a *building* within the scope of Subsection 3.2.6. shall conform to Articles 3.2.6.8. and 3.2.6.9.

3.5.2. Elevator Required

3.5.2.1. Elevator for Group B, Division 2 and 3 Occupancies

(1) In a Group B, Division 2 or 3 *occupancy*, if sleeping rooms or patient or resident services are provided on more than one floor level and the floor levels are not connected by ramps conforming to Article 3.8.3.4., such floor levels shall be served by at least one elevator that

- (a) is large enough to accommodate a stretcher in a horizontal position, and
- (b) conforms to Appendix E of CSA-B44 "Safety Code for Elevators, Escalators, Dumbwaiters, Moving Walks and Freight Platforms Lifts".

3.5.3. Fire Separations

3.5.3.1. Fire Separations for Elevator Hoistways

(1) A *vertical service space* used as an elevator hoistway shall be separated from all other portions of each adjacent *storey* by a *fire separation* having a *fire-resistance rating* conforming to Table 3.5.3.1. for the *fire-resistance rating* required by Subsection 3.2.2. for

- (a) the floor assembly above the *storey*, or
- (b) the floor assembly below the *storey*, if there is no floor assembly above.

3.5.3.2. Vertical Service Spaces for Dumbwaiters

(1) A *vertical service space* containing a dumbwaiter shall be separated from all other portions of each adjacent *storey* by a *fire separation* having a *fire-resistance rating* conforming to Table 3.5.3.1. for the *fire-resistance rating* required by Subsection 3.2.2. for

- (a) the floor assembly above the *storey* or
- (b) the floor assembly below the *storey*, if there is no floor assembly above.

Table 3.5.3.1.

Fire Separation for Vertical Transportation Space

Forming Part of Articles 3.5.3.1. and 3.5.3.2.

| Fire-Resistance Rating of Fire Separation Required for Floor Assembly | Minimum Fire-Resistance Rating of Vertical Service Space for Elevator Hoistway | Minimum Fire-Resistance Rating of Vertical Service Space for Dumbwaiters |
|---|--|--|
| less than 45 min | 45 min | --- |
| 45 min | 45 min | 45 min |
| 1 h | 1 h | 45 min |
| 1.5 h | 1 h | 1 h |
| 2 h or more | 1.5 h | 1 h |
| Column 1 | 2 | 3 |

3.5.3.3. Fire Separations for Elevator Machine Rooms

(1) Except as permitted by Sentence (2), a room containing elevator machinery shall be separated from all other parts of the *building* by a *fire separation* having a *fire-resistance rating* not less than that required for the *vertical service space* containing the elevator hoistway.

(2) A room containing elevator machinery need not be separated from the elevator hoistway that it serves provided the room and the hoistway are separated from all other parts of the *building* by a *fire separation* having a *fire-resistance rating* not less than that required for the *vertical service space* containing the elevator hoistway.

3.5.4. Dimensions and Signs

3.5.4.1. Elevator Car Dimensions

(1) If an elevator is installed to conform to the requirements of Article 3.3.1.7., or if one or more elevators are provided in a *building* more than three *storeys in building height*, each *storey* having elevator service shall be served by at least one elevator which has inside dimensions that will accommodate and provide adequate access for a patient stretcher 2 010 mm long and 610 mm wide in the prone position.

(2) An elevator satisfying the requirements of Sentence (1) shall be clearly identified on the main entrance level of the *building*.

Section 3.6. Service Facilities

3.6.1. General

3.6.1.1. Scope

(1) The provisions of this Section apply to *horizontal service spaces*, *vertical service spaces*, *attic or roof spaces*, *ducts*, *crawl spaces*, *shaft spaces*, *service rooms*, and *mechanical penthouses*, and facilities contained therein.

(2) Except for *plenum* requirements in 3.6.4.3., the fire safety characteristics of heating, ventilating and air-conditioning systems shall comply with Part 6.

3.6.1.2. Reserved

3.6.1.3. Storage Use Prohibition

(1) *Service spaces* shall not be designed to facilitate subsequent use as storage space.

3.6.1.4. Reserved

3.6.1.5. Fixed Access Ladders

(1) If a fixed ladder is installed to provide access to a roof of a *building*, the design and installation of the attachment and anchorage system for the ladder shall be as described in the Supplementary Guidelines.

3.6.2. Service Rooms

3.6.2.1. Fire Separations around Service Rooms

(1) Except as permitted by Article 3.6.2.2., a fuel-fired *appliance* in a *building* containing a Group B or Group F, Division 1 *occupancy* shall be located in a *service room* which shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than

(a) 2 h if the *building* is more than 2 *storeys in building height* or more than 400 m² in *building area*, or

(b) 1 h if the *building* is neither more than 2 *storeys in building height* nor more than 400 m² in *building area*.

(2) Except as permitted by Article 3.6.2.2., a fuel-fired *appliance* in a *building* not containing a Group B or Group F, Division 1 *occupancy* shall be located in a *service room* which shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h if the *building* is more than 2 *storeys in building height* or more than 400 m² in *building area*.

(3) A solid fuel-fired *appliance* shall not be located in a *repair garage*, a *storage garage* or any other location where the *appliance* could be exposed to flammable vapours or gases unless

(a) it is enclosed in a *service room* which is

(i) separated from the remainder of the *building* in conformance with Sentence (1) or Sentence (2), and

(ii) supplied with combustion air directly from outside the *building*, and

(b) the heat generated by the *appliance* is supplied indirectly to the space served by means of ducts or piping.

(4) The *fire separation* requirements of Sentence (1) or Sentence (2) shall apply to a *service room* intended to contain equipment that uses a liquid having a flash point below 93.3°C.

(5) Except as permitted by Article 3.6.2.2., a *service room* used for a purpose not described in Sentences (1), (2), (3), or (4) and Articles 3.6.2.5., 3.6.2.6. and 3.6.2.8. shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(6) Sentence (5) shall apply to a room that contains electrical equipment that is required to be located in a *service room* by a regulation made under the Power Corporation Act.

(7) The *fire separation* provisions for a fuel-fired *appliance* in a portable classroom shall conform to Article 3.9.3.7.

3.6.2.2. Walver of Fire Separations

(1) A *fire separation* is not required between a fireplace and the space it serves.

(2) A *fire separation* is not required between a roof-top *appliance* and the *building* it serves.

(3) Except for *buildings* classified as Group B or Group F, Division 1 occupancies, the *fire separations* required by Sentence 3.6.2.1.(2) need not be provided for fuel-fired *appliances* that serve not more than one room or *suite*, provided the *appliances* are not solid fuel-fired *appliances* referred to in Sentence 3.6.2.1.(3).

(4) The *fire separation* required by Sentence 3.6.2.1.(5) need not be provided if the *service room* is located in a *floor area* that is *sprinklered*.

(5) If a room contains a limited quantity of service equipment, and the service equipment does not constitute a fire hazard, the requirements of Sentence 3.6.2.1.(5) for a *fire separation* shall not apply.

3.6.2.3. Service Rooms under Exits

(1) A *service room* containing service equipment subject to possible explosion, such as *boilers* operating in excess of 100 kPa (gauge) and some types of refrigerating machinery and transformers, shall not be located directly under a required *exit*.

3.6.2.4. Service Equipment

(1) A *service room* containing space heating, space cooling and service water heating *appliances* is permitted to contain other service equipment such as electrical service equipment.

3.6.2.5. Incinerator Rooms

(1) A *service room* containing an incinerator shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 2 h.

(2) A *service room* containing an incinerator shall not contain other fuel-fired *appliances*.

3.6.2.6. Combustible Refuse Storage

(1) Except as required by Sentence 3.6.3.3.(9), a room for the storage of *combustible* refuse shall be

- (a) separated from the remainder of the *building* by a *fire separation* with a *fire-resistance rating* not less than 1 h, and
- (b) *sprinklered*.

3.6.2.7. Door Swing for Service Rooms

(1) A swing-type door from a *service room* containing a *boiler* or incinerator shall swing outward from the room, except that the door shall swing inward if the door opens onto a corridor or any room used for an *assembly occupancy*.

3.6.2.8. Electrical Equipment Vaults

(1) Where an electrical equipment vault is required by a regulation made under the Power Corporation Act, the electrical equipment vault shall be totally enclosed by a *fire separation* of solid masonry or concrete construction having a *fire-resistance rating* of not less than 3 h if the vault is not provided with an automatic fire extinguishing system and not less than 2 h if the vault is so protected.

(2) Where a *building* is required to be *sprinklered*, the electrical equipment vault described in Sentence (1) need not be *sprinklered* provided

- (a) the vault is designed for no purpose other than to contain the electrical equipment, and

(b) a *smoke detector* is provided in the vault which will actuate the *building* fire alarm system in the event of a fire in the vault.

(3) A vault, which is part of a *building* and houses electrical equipment indoors, shall have

- (a) roofs or ceilings consisting of reinforced concrete of adequate strength for the conditions and not less than 150 mm thick, and
- (b) floors consisting of reinforced concrete of adequate strength for the conditions and not less than 150 mm thick, except that floors which are at excavation level are permitted to be of reinforced concrete not less than 100 mm thick.

(4) Walls, roofs or ceilings, and floors shall be adequately anchored together in a manner designed to resist dislodgement by explosion.

(5) Only pipes or ducts necessary for fire protection or the proper operation of the electrical installation shall penetrate the *fire separations* surrounding the electrical equipment vault.

(6) A ventilation duct or opening, which penetrates the *fire separation* to the outdoors, need not be protected by a *closure* at the penetration.

(7) Each door to an electrical equipment vault shall be provided with a substantial lock or padlock.

(8) Explosion-relief devices and vents or other protective measures shall be provided for every electrical equipment vault containing dielectric liquid filled electrical equipment in conformance with Sentence 3.3.1.19.(2).

(9) Every electrical equipment vault shall be provided with a ventilation system designed in conformance with Part 6 to prevent the ambient temperature in the vault from exceeding 40°C.

(10) Where the vault ventilation system in Sentence (9) is directly from an outdoor area by natural ventilation without the use of ducts, and where the electrical equipment is the principal source of heat, the combined net area of inlet and outlet openings shall be not less than 0.002 m²/kVa of electrical equipment capacity with a minimum of 0.093 m², except that

- (a) where equipment in the power class as described in CAN3-C88, "Power Transformers and Reactors" is installed, ventilation requirements are permitted to be based on the actual full-load losses, or
- (b) where the equipment is installed for emergency purposes only and is not normally energized, it need not be considered in determining the ventilation requirements.

(11) In the vault ventilation system in Sentence (10), the inlet for fresh air shall lead from an outdoor area and shall terminate at a point not more than 1 000 mm above the floor level of the vault.

(12) Where the vault ventilation system in Sentence (9) is a mechanical system, it shall be separate from the system for the remainder of the *building* and shall be designed so that

- (a) the vault temperature is thermostatically controlled,
- (b) the fan is located so that it may be serviced without danger to personnel,
- (c) a high temperature alarm is provided in the vault,
- (d) the system is automatically shut off in the event of a fire in the vault, and

- (e) a filter is provided in the air inlet if there is a possibility of dirt being drawn in.

(13) All ventilation openings shall be protected in conformance with Sentences 6.2.3.17.(4) and (5) and the protection shall be installed in such a manner that it cannot be removed from the outside by the use of common tools and it is tamperproof.

(14) Except as permitted in Sentence (15), the floor of the electrical equipment vault described in Sentences (1) and (2) shall be liquid tight and surrounded by liquid tight walls and sills of sufficient height to confine within the vault all of the liquid from the largest item of electrical equipment, but to a height of not less than 100 mm.

(15) The floor of the electrical equipment vault described in Sentences (1) and (2) may be provided with a floor drain connected to a covered sump capable of holding all of the liquid from the largest item of electrical equipment, and the connection shall have a *noncombustible* trap to prevent the spread of fire from the vault to the sump.

3.6.2.9. Storage of Oxygen Containers

(1) In a Group B, Division 2 or 3 *occupancy*, a room for the storage of oxygen containers shall be

- (a) separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h,
- (b) designed for the storage of oxygen containers only,
- (c) vapour tight,
- (d) lined with *noncombustible* finish,
- (e) separately exhausted to the exterior, and
- (f) equipped with racks to store the containers.

3.6.3. Vertical Service Spaces and Service Facilities

3.6.3.1 Fire Separations for Vertical Service Spaces

(1) Except as required by Section 3.5., a *vertical service space* shall be separated from all other portions of each adjacent *storey* by a *fire separation* having a *fire-resistance rating* conforming to Table 3.6.3.1. for the *fire-resistance rating* required by Subsection 3.2.2. for

- (a) the floor assembly above the *storey*, or
- (b) the floor assembly below the *storey*, if there is no floor assembly above.

(2) A *vertical service space* that does not extend through the roof of a *building* shall be enclosed at the top with construction having a *fire-resistance rating* not less than that required for the *vertical service space* walls.

Table 3.6.3.1.

Fire Separations for Vertical Service Space

Forming Part of Sentence 3.6.3.1.(1)

| <i>Fire-Resistance Rating of Fire Separation Required for Floor Assembly</i> | <i>Minimum Fire-Resistance Rating of Vertical Service Space</i> |
|--|---|
| less than 45 min | --- |
| 45 min | 45 min |
| 1 h | 45 min |
| 1.5 h | 1 h |
| 2 h or more | 1 h |
| Column 1 | 2 |

(3) A *vertical service space* that does not extend to the bottom of a *building* shall be enclosed at the lowest level with construction having a *fire-resistance rating* not less than that required for the *vertical service space* walls.

(4) A vent from a *vertical service space* not extending to the roof shall be enclosed within the *building* with construction having a *fire-resistance rating* not less than that required for the *vertical service space* walls.

(5) Only openings that are necessary for the use of the *vertical service space* shall be permitted through a *vertical service space* enclosure.

3.6.3.2. Foamed Plastic Protection

(1) Foamed plastic insulation in a *vertical service space* shall be protected in conformance with Article 3.1.5.11.

3.6.3.3. Linen and Refuse Chutes

(1) A linen chute or refuse chute shall

- (a) be impervious to moisture,
- (b) have a smooth internal surface,
- (c) be corrosion-resistant,
- (d) be constructed of *noncombustible* material, and

(e) be located in a shaft in which there are no services other than *noncombustible* drain, waste and vent piping or *noncombustible* water piping.

(2) A shaft containing a linen chute or refuse chute shall have a *fire-resistance rating* conforming to Sentence 3.6.3.1.(1), but not less than

- (a) 1 h if the chute outlet for the discharge room is protected by an automatic, self-latching *closure* held open by a fusible link, or
- (b) 2 h if no *closure* is provided at the chute outlet into the discharge room.

(3) An interior linen chute or refuse chute shall extend not less than 1 000 mm above the roof and shall be vented above the roof with a vent which

- (a) has an unobstructed area not less than the cross-sectional area of the chute, and
- (b) is equipped with a cover that will open automatically, or that can be opened manually, in the event of a fire in the chute.
- (4) Intake openings for a linen chute or a refuse chute shall
 - (a) have an area not more than 60% of the cross-sectional area of the chute, and
 - (b) be fitted with *closures* designed to close automatically and latch after use.
- (5) Intake openings for a linen chute or a refuse chute shall be located in rooms or compartments that
 - (a) have no dimension less than 750 mm,
 - (b) are separated from the remainder of the *building* by a *fire separation* with a *fire-resistance rating* not less than 45 min,
 - (c) are designed for no other purpose, and
 - (d) do not open directly into an *exit*.
- (6) Sprinklers shall be installed at the top of each linen chute or refuse chute, at alternate floor levels and in the room or bin into which the chute discharges.
- (7) The room into which a linen chute discharges shall be separated from the remainder of the *building* by a *fire separation* with a *fire-resistance rating* not less than 1 h.
- (8) A refuse chute shall be equipped at the top with spray equipment for washing-down purposes.
- (9) A refuse chute shall discharge only into a room or bin separated from the remainder of the *building* by a *fire separation* with a *fire-resistance rating* not less than 2 h.
- (10) The room or bin into which a refuse chute discharges shall be of sufficient size to contain the refuse between normal intervals of emptying, be impervious to moisture and be equipped with a water connection and floor drain for washing-down purposes.
- (11) A room into which a refuse chute discharges shall contain no service equipment that is not related to refuse handling and disposal.

3.6.3.4. Exhaust Duct Negative Pressure

- (1) If a *vertical service space* contains an exhaust duct that serves more than one *fire compartment*, the duct shall have a fan located at or near the exhaust outlet to ensure that the duct is under negative pressure.

3.6.4. Horizontal Service Spaces and Service Facilities

3.6.4.1. Scope

- (1) This Subsection applies to *horizontal service spaces* and service facilities, including ceiling spaces, duct spaces, crawl spaces and *attic* or *roof spaces*.

3.6.4.2. Fire Separations for Horizontal Service Spaces

- (1) A *horizontal service space* that penetrates a required vertical *fire separation* shall be separated from the remainder of the *building* it serves in conformance with Sentence (2).

- (2) If a *horizontal service space* or other concealed space is located above a required vertical *fire separation* other than a vertical shaft, this space need not be divided at the *fire separation* as required by Article 3.1.8.3. provided the construction between this space and the space below is a *fire separation* with a *fire-resistance rating* equivalent to that required for the vertical *fire separation*, except that the *fire-resistance rating* is permitted to be not less than 30 min if the vertical *fire separation* is not required to have a *fire-resistance rating* more than 45 min.

3.6.4.3. Plenum Requirements

- (1) A concealed space used as a *plenum* within a floor assembly or within a roof assembly need not conform to Sentence 3.1.5.14.(1) and Article 6.2.3.2. provided

- (a) all materials within the concealed space have a *flame-spread rating* not more than 25 and a smoke developed classification not more than 50, except for
 - (i) tubing for pneumatic controls,
 - (ii) optical fibre cables and electrical wires and cables that exhibit a flame spread not more than 1.5 m, a smoke density not more than 0.5 at peak optical density and a smoke density not more than 0.15 at average optical density when tested in conformance with the Flame and Smoke Test in the Appendix to CAN/CSA C22.2 No. 0.3, "Test Methods for Electrical Wires and Cables" (FT6 Rating),
 - (iii) optical fibre cables and electrical wires and cables that are located in totally enclosed *noncombustible* raceways, and
 - (iv) Reserved
 - (v) single conductor electrical wires and cables that exhibit a vertical char of not more than 1.5 m when tested in conformance with the Vertical Flame Test - Cables in Cabletrough in Clause 4.11.4. of CSA C22.2 No. 0.3, "Test Methods for Electrical Wires and Cables" (FT4 Rating), and
- (b) the supports for the ceiling membrane are of *noncombustible* material having a melting point not below 760°C.

- (2) If a concealed space referred to in Sentence (1) is used as a return-air *plenum* and incorporates a ceiling membrane that forms part of the required *fire-resistance rating* of the assembly, every opening through the membrane shall be protected by a *fire stop flap* which shall

- (a) stop the flow of air into the concealed space in the event of a fire,
- (b) be supported in a manner that will maintain the integrity of the ceiling membrane for the duration of time required to provide the required *fire-resistance rating*, and
- (c) conform to CAN4-S112.2-M, "Standard Method of Fire Test of Ceiling Firestop Flap Assemblies".
- (3) Asbestos paper shall not be exposed in supply and return-air systems.

3.6.4.4. Attic or Roof Space Access

(1) An *attic or roof space* more than 600 mm high shall be provided with access from the floor immediately below by a hatchway not less than 550 mm by 900 mm or by a stairway.

3.6.4.5. Horizontal Service Space Access

(1) A *horizontal service space*, consisting of ceiling and duct spaces, which is more than 1 200 mm high and 600 mm wide shall have inspection doors not less than 300 mm in both horizontal and vertical dimensions placed so that the entire interior of the duct or space can be viewed.

3.6.4.6. Crawl Space Access

(1) A crawl space shall have at least one access opening not less than 550 mm by 900 mm.

Section 3.7. Health Requirements**3.7.1. Height and Area of Rooms****3.7.1.1. Room and Space Height**

(1) The height of every room and space shall be sufficient that

- (a) adequate light and air are provided for the intended *occupancy*, and
- (b) no obstruction to movement or activities below is caused by the ceiling or ceiling fixtures.

(2) The unobstructed height in *dwelling units* and sleeping rooms in Group C *occupancies* shall conform to Part 9.

3.7.1.2. Residential Room Dimensions

(1) The areas of rooms in *dwelling units*, dormitories, boarding houses and rooming houses shall conform to Part 9.

3.7.1.3. Sleeping Areas in Group B and Child Care Facilities

(1) Except as provided in Sentence (2), a sleeping area in a Group B *occupancy* shall provide not less than 4.7 m² per person in a room having

- (a) an area not less than 7 m²,
- (b) a horizontal dimension not less than 2 000 mm, and
- (c) a ceiling height not less than 2 300 mm.

(2) Sleeping rooms for residents in nursing homes shall have, exclusive of space provided for washrooms and for built-in or portable clothes closets, a floor space not less than

- (a) 10.22 m² in a single-bed unit,
- (b) 16.72 m² in a two-bed unit,
- (c) 25.08 m² in a three-bed unit, and
- (d) 29.73 m² in a four-bed unit.

(3) A child care facility shall provide sleeping accommodation having not less than 0.93 m² of floor surface area for each child with not less than 2 300 mm ceiling height over the entire room area.

3.7.1.4. Sleeping Areas in Camps

(1) *Recreational camps* shall have an area in the sleeping quarters of not less than 3.72 m² per camper or, if double or triple tier bunk units are used, 2.79 m² per camper.

(2) A *camp for housing of workers* shall have an area of not less than 3.72 m² per employee in every room used for sleeping purposes.

3.7.2. Windows**3.7.2.1. Window Areas**

(1) Except as provided in Sentences (2) and (3) or otherwise permitted, every room used for sleeping in any *building*, and every principal room such as living room, dining room or combination thereof in *dwelling units* shall be provided with windows having areas conforming to Part 9, except that Article 9.7.1.3 does not apply.

(2) Nursing homes shall have

- (a) in an activity room, a sitting room or a lounge, one or more windows with a total unobstructed glass area, exclusive of skylights, of not less than 10% of the area of the room, and
- (b) in a residents' sleeping room, one or more windows that
 - (i) have a total unobstructed glass area, exclusive of skylights, of not less than 10% of the area of the room,
 - (ii) open to the outdoors and have a total unobstructed glass area, exclusive of skylights, of not less than 5% of the area of the room, and
 - (iii) are installed with the bottom edge of the glass of every window not more than 660 mm above the floor.

(3) Play activity rooms in a child care facility and work areas in *live/work units* shall have one or more windows that conform to Clause (2)(a).

3.7.2.2. Window Protection in Apartment Buildings

(1) In Group C *major occupancy apartment buildings* protection shall be provided at windows to minimize the hazards to children in accordance with Sentences (2) to (4).

(2) Fixed windows within *dwelling units* that extend to less than 1 000 mm from the floor shall be protected by *guards* to at least 1 000 mm above the floor, or shall be designed to withstand the lateral *design loads* for balcony *guards* in Part 4.

(3) Except as provided in Sentence (4), in *dwelling units* any window located more than 2 000 mm above *grade* which opens within 1 500 mm of the floor shall be protected

- (a) by a *guard* conforming to Sentence 3.3.1.17.(3),
- (b) by

- (i) a controlled sash operation to restrict, when engaged, the opening of the operable sash to not more than 100 mm, and

- (ii) a heavy duty screen conforming to CAN/CSA-A440-M, "Windows", or

- (c) by an alternative device which does not reduce the degree of safety provided by Clauses (a) or (b).

(4) Protection of a window need not be provided in a *dwelling unit* where an exterior balcony is constructed for the full length of a window.

3.7.3. Ventilation

3.7.3.1. Ventilation Requirements

- (1) All rooms and spaces shall be ventilated to conform with Part 6.

3.7.4. Plumbing Facilities

3.7.4.1. Plumbing and Drainage Systems

(1) Except as permitted in Sentence (3), each *building* situated on property that abuts on a *street* in which a public or municipal water main is located shall be provided with or have accessible to its occupants a *plumbing system* including a *potable* water supply, a *sanitary drainage system* and *plumbing fixtures*.

(2) When the installation of a *sanitary drainage system* is not possible because of the absence of a water supply, sanitary privies, chemical closets or other means for the disposal of human waste shall be provided.

(3) *Plumbing fixtures* need not be provided in a *building* which is not normally occupied by persons where such installations are impractical and other *fixtures* are available in nearby *buildings* when the subject *building* is in use.

3.7.4.2. Plumbing Fixtures, General

(1) For the purposes of this Subsection, the *occupant load* shall be determined in accordance with the provisions in Subsection 3.1.16, except that in a Group D *occupancy*, the area per person shall be 14 m².

(2) Except as provided in this Subsection, water closets shall be provided for each sex assuming that the *occupant load* is equally divided between males and females, unless the proportion of each sex expected in the *building* can be determined with reasonable accuracy.

(3) Except as provided in Sentence (4), urinals are permitted to be substituted for water closets required by this Subsection for males and may be counted as water closets provided the number of urinals is not more than

- (a) one-fifth of the required number of water closets in hospitals and nursing homes, and

- (b) two-thirds of the required number of water closets in any other *occupancy*.

(4) If only 2 water closets are required for males, one urinal is permitted to be substituted for one of the water closets.

(5) Except as required in this Subsection, at least one lavatory shall be provided in a room containing one or 2 water closets or urinals, and at least one additional lavatory shall be provided for each additional 2 water closets or urinals.

(6) Wash fountains in circular or straight trough form are permitted to be provided in lieu of required lavatories provided each 500 mm of circumference or trough length is considered to be the equivalent of one lavatory.

3.7.4.3. Plumbing Fixtures for Assembly Occupancies

(1) Except as permitted by Sentences (2) to (16), the number of water closets required for *assembly occupancies* shall conform to Table 3.7.4.3.A.

Table 3.7.4.3.A.

Water Closets for Assembly Occupancies

Forming Part of Sentence 3.7.4.3.(1)

| Number of Persons of Each Sex | Minimum Number of Water Closets for Each Sex |
|-------------------------------|--|
| 1 to 25 | 1 |
| 26 to 50 | 2 |
| over 50 | 3 plus 1 for each additional increment of 50 persons of each sex in excess of 50 |
| Column 1 | 2 |

(2) Except for motion picture *theatres*, the number of water closets required for Group A, Division 1 *occupancies* shall conform to Table 3.7.4.3.B.

Table 3.7.4.3.B.

Water Closets for Assembly Occupancies

Forming Part of Sentence 3.7.4.3.(2)

| Number of Persons of Each Sex | Minimum Number of Water Closets | |
|-------------------------------|--|---|
| | Male | Female |
| 1 to 50 | 1 | 2 |
| 51 to 75 | 2 | 3 |
| 76 to 100 | 2 | 4 |
| 101 to 125 | 3 | 5 |
| 126 to 150 | 3 | 6 |
| 151 to 175 | 4 | 7 |
| 176 to 200 | 4 | 8 |
| 201 to 250 | 5 | 9 |
| 251 to 300 | 5 | 10 |
| 301 to 350 | 6 | 11 |
| 351 to 400 | 6 | 12 |
| over 400 | 7 plus 1 for each additional increment of 200 males in excess of 400 | 13 plus 1 for each additional increment of 100 females in excess of 400 |
| Column 1 | 2 | 3 |

(3) The number of water closets required shall conform to Table 3.7.4.3.C. for

- (a) motion picture *theatres*,

- (b) Group A, Division 3 *occupancies*,

(c) Group A, Division 4 *occupancies*, and

Table 3.7.4.3.E.

(d) *outdoor pools*.**Water Closets for Assembly Occupancies**

Forming Part of Sentence 3.7.4.3.(5)

Table 3.7.4.3.C.

Water Closets for Assembly Occupancies

Forming Part of Sentence 3.7.4.3.(3)

| Number of Persons of Each Sex | Minimum Number of Water Closets for Each Sex |
|-------------------------------|--|
| 1 to 50 | 1 |
| 51 to 150 | 2 |
| 151 to 250 | 3 |
| 251 to 375 | 4 |
| 376 to 500 | 5 |
| over 500 | 6 plus 1 for each additional increment of 150 persons of each sex in excess of 500 |
| Column 1 | 2 |

(4) The number of water closets required for dining rooms, restaurants and cafeteria shall conform to Table 3.7.4.3.D.

Table 3.7.4.3.D.

Water Closets for Assembly Occupancies

Forming Part of Sentence 3.7.4.3.(4)

| Number of Persons of Each Sex | Minimum Number of Water Closets for Each Sex |
|-------------------------------|--|
| 1 to 20 | 1 |
| 21 to 70 | 2 |
| 71 to 105 | 3 |
| 106 to 135 | 4 |
| 136 to 165 | 5 |
| 166 to 195 | 6 |
| 196 to 225 | 7 |
| 226 to 275 | 8 |
| 276 to 325 | 9 |
| 326 to 375 | 10 |
| 376 to 425 | 11 |
| over 425 | 12 plus 1 for each additional increment of 50 persons of each sex in excess of 425 |
| Column 1 | 2 |

(5) The number of water closets required for establishments used primarily for the consumption of alcoholic beverages which provide limited or no food service shall conform to Table 3.7.4.3.E.

| Number of Persons of Each Sex | Minimum Number of Water Closets for Each Sex |
|-------------------------------|--|
| 1 to 50 | 2 |
| 51 to 70 | 3 |
| 71 to 90 | 4 |
| 91 to 110 | 5 |
| 111 to 140 | 6 |
| 141 to 180 | 7 |
| 181 to 220 | 8 |
| 221 to 260 | 9 |
| over 260 | 10 plus 1 for each additional increment of 40 persons of each sex in excess of 260 |
| Column 1 | 2 |

(6) Except as provided in Sentences (7) and (8), in every dining room, restaurant, cafeteria and alcoholic beverage establishment having more than 40 seats, separate sanitary facilities shall be provided for employees, in addition to facilities provided for patrons, and the number of water closets and lavatories required shall conform to Table 3.7.4.3.F.

(7) Except as provided in Sentence (8), in every dining room, restaurant, cafeteria and alcoholic beverage establishment having not more than 40 seats, patrons are permitted to share the sanitary facilities provided for employees, and the minimum number of water closets and lavatories shall conform to Table 3.7.4.3.F. based on

(a) a male *occupant load* of 50% of the number of seats plus the number of male employees, and

(b) a female *occupant load* of 50% of the number of seats plus the number of female employees.

Table 3.7.4.3.F.

Plumbing Fixtures for Assembly Occupancies

Forming Part of Sentences 3.7.4.3.(6) and (7)

| Number of Employees of Each Sex | Minimum Number of Water Closets and Lavatories | |
|---------------------------------|--|--|
| | Male | Female |
| 1 to 9 | 1 | 1 |
| 10 to 24 | 2 | 2 |
| 25 to 49 | 3 | 3 |
| 50 to 74 | 4 | 4 |
| 75 to 100 | 5 | 5 |
| over 100 | 6 plus 1 for each additional increment of 30 male employees in excess of 100 | 6 plus 1 for each additional increment of 30 female employees in excess of 100 |
| Column 1 | 2 | 3 |

(8) Where the total number of employees is not more than 5, the same room may be used by both female and male employees provided the door to the room can be locked from the inside.

(9) The number of employees in Sentences (6), (7) and (8) shall be the maximum number of employees who are normally present on the premises at one time and shall include only those who are present for more than 25 per cent of the working day.

(10) For a parking lot that is part of a restaurant where patrons are intended to eat in vehicles parked on the lot, the number of water closets required shall conform to

(a) Table 3.7.4.3.G. where food service by employees is not provided on the parking lot, or

(b) Table 3.7.4.3.H. where employees serve food on the parking lot.

Table 3.7.4.3.G.

Water Closets for Assembly Occupancies

Forming part of Sentence 3.7.4.3.(10)

| Number of Parking Spaces | Minimum Number of Water Closets for Each Sex |
|--------------------------|---|
| 1 to 20 | 1 |
| 21 to 70 | 2 |
| 71 to 105 | 3 |
| 106 to 135 | 4 |
| 136 to 165 | 5 |
| 166 to 195 | 6 |
| 196 to 225 | 7 |
| 226 to 275 | 8 |
| 276 to 325 | 9 |
| 326 to 375 | 10 |
| 376 to 425 | 11 |
| over 425 | 12 plus 1 for each additional increment of 50 parking spaces in excess of 425 |
| Column 1 | 2 |

(11) The number of water closets required for drive-in *theatres* shall conform to Table 3.7.4.3.H.

Table 3.7.4.3.H.

Water Closets for Assembly Occupancies

Forming part of Sentences 3.7.4.3.(10) and (11)

| Number of Parking Spaces | Minimum Number of Water Closets for Each Sex |
|--------------------------|--|
| 1 to 40 | 1 |
| 41 to 140 | 2 |
| 141 to 210 | 3 |
| 211 to 270 | 4 |
| 271 to 330 | 5 |
| 331 to 390 | 6 |
| 391 to 450 | 7 |
| 451 to 550 | 8 |
| 551 to 650 | 9 |
| 651 to 750 | 10 |
| 751 to 850 | 11 |
| over 850 | 12 plus 1 for each additional increment of 100 parking spaces in excess of 850 |
| Column 1 | 2 |

(12) The number of water closets required for dance halls and recreational establishments shall be not less than one fixture for each 100 males and one fixture for each 75 females.

(13) In a child care facility the maximum number of children per water closet and lavatory shall conform to Table 3.7.4.3.I.

Table 3.7.4.3.I.

Plumbing Fixtures for a Child Care Facility

Forming Part of Sentence 3.7.4.3.(13)

| Age of Children | Maximum Number of Children per Water Closet and Lavatory |
|-----------------|--|
| under 2 | 10 without regard to number of each sex |
| 2 to 5 | 10 without regard to number of each sex |
| 6 to 9 | 15 for males; 15 for females |
| over 9 | 30 for males; 26 for females |
| Column 1 | 2 |

(14) The number of water closets required for elementary and secondary schools shall be not less than one fixture for each 30 males and one fixture for each 26 females.

(15) The number of water closets required for non-residential college *buildings* shall be not less than one fixture for each 100 males and one fixture for each 75 females.

(16) The number of water closets required for places of worship and undertaking premises shall be not less than one fixture for each 150 persons of each sex.

3.7.4.4. Plumbing Fixtures for Care or Detention Occupancies

(1) The number of water closets and lavatories required for Group B, Division 1 *occupancies* shall be determined on the basis of the special needs of these *occupancies*.

(2) In a Group B, Division 2 or 3 *occupancy*, washrooms shall be provided so that each washroom

- (a) serves not more than four patients or residents,
- (b) is accessible from patients' or residents' sleeping rooms,
- (c) contains one water closet, and
- (d) contains one lavatory.

(3) The number of water closets required for employees in Group B, Division 2 or 3 *occupancies* shall conform to Table 3.7.4.4.

Table 3.7.4.4.

Water Closets in Group B, Division 2 or 3 Occupancies

Forming Part of Sentence 3.7.4.4.(3)

| Number of Persons of Each Sex | Minimum Number of Water Closets for Each Sex |
|-------------------------------|---|
| up to 9 | 1 |
| 10 to 24 | 2 |
| 25 to 49 | 3 |
| 50 to 74 | 4 |
| 75 to 100 | 5 |
| over 100 | 6 plus 1 for each additional increment of 30 persons of each sex in excess of 100 |
| Column 1 | 2 |

3.7.4.5. Plumbing Facilities for Dwelling Units

(1) A kitchen sink, lavatory, water closet and bathtub or shower stall shall be provided for every *dwelling unit* where a piped water supply is available.

3.7.4.6. Plumbing Fixtures for Other Residential Occupancies

(1) Except for *dwelling units* and as provided in Sentence (2), the number of water closets required for *residential occupancies* shall conform to Table 3.7.4.6.

Table 3.7.4.6.

Water Closets For Residential Occupancies

Forming Part of Sentence 3.7.4.6.(1)

| Number of Persons of Each Sex | Minimum Number of Water Closets for Each Sex |
|-------------------------------|---|
| up to 9 | 1 |
| 10 to 24 | 2 |
| 25 to 49 | 3 |
| 50 to 74 | 4 |
| 75 to 100 | 5 |
| over 100 | 6 plus 1 for each additional increment of 30 persons of each sex in excess of 100 |
| Column 1 | 2 |

(2) Not less than one water closet or privy shall be provided for every

- (a) 10 campers of each sex in a *recreational camp*, and
- (b) 10 employees of each sex in a *camp for housing of workers*.

(3) In *recreational camps* and *camps for housing of workers*, not less than two lavatories or provision for a pail or other portable container of sound construction shall be provided for each of the water closets or privies required in Sentence (2).

(4) A *camp for housing of workers* shall include

- (a) not less than one shower or other area of bathing, and
- (b) provisions for not less than one washing machine or laundry tub for every 15 beds.

3.7.4.7. Plumbing Fixtures for Business and Personal Services Occupancies

(1) Except as provided in Sentence (2), the number of water closets required for *business and personal services occupancies* shall conform to Table 3.7.4.7.

Table 3.7.4.7.

Water Closets for Business and Personal Services Occupancies

Forming Part of Sentence 3.7.4.7.(1)

| Number of Persons of Each Sex | Minimum Number of Water Closets for Each Sex |
|-------------------------------|---|
| up to 9 | 1 |
| 10 to 24 | 2 |
| 25 to 49 | 3 |
| 50 to 74 | 4 |
| 75 to 100 | 5 |
| over 100 | 6 plus 1 for each additional increment of 30 persons of each sex in excess of 100 |
| Column 1 | 2 |

(2) Not more than one water closet to serve both sexes need be provided in a Group D occupancy having an occupant load of not more than 5 persons.

3.7.4.8. Plumbing Fixtures for Mercantile Occupancies

(1) Except as provided in this Article, the number of water closets required for employees in *mercantile occupancies* shall conform to Table 3.7.4.8.

Table 3.7.4.8.

Water Closets for Mercantile Occupancies

Forming Part of Sentence 3.7.4.8.(1)

| Number of Persons of Each Sex | Minimum Number of Water Closets for Each Sex |
|-------------------------------|---|
| up to 9 | 1 |
| 10 to 24 | 2 |
| 25 to 49 | 3 |
| 50 to 74 | 4 |
| 75 to 100 | 5 |
| over 100 | 6 plus 1 for each additional increment of 30 persons of each sex in excess of 100 |
| Column 1 | 2 |

(2) Except as provided in Sentence (4), the number of water closets required for the public in *mercantile occupancies* shall be not less than one fixture for each 300 males and one fixture for each 150 females, except that

- (a) water closets provided for employees are permitted to be counted as part of those required for the public when these water closets are made accessible to the public, and
- (b) where the total area of the *mercantile occupancy*, excluding *basements*, is not more than 600 m², not more than one water closet for each sex need be provided.

(3) Not more than one water closet to serve both sexes need be provided in a Group E occupancy where

- (a) the *occupant load* is not more than 9 persons, or
- (b) where the total area of the *occupancy*, excluding *basements*, is not more than 300 m².

(4) For a restaurant classified as *mercantile occupancy*, the number of water closets and lavatories required shall conform to Article 3.7.4.3.

3.7.4.9. Plumbing Fixtures for Industrial Occupancies

(1) Except as provided in Sentence (2), the number of water closets and lavatories required for *industrial occupancies* shall conform to Table 3.7.4.9.

Table 3.7.4.9.

Plumbing Fixtures for Industrial Occupancies

Forming Part of Sentence 3.7.4.9.(1)

| Number of Persons of Each Sex | Minimum Number of Water Closets and Lavatories for Each Sex |
|-------------------------------|---|
| up to 9 | 1 |
| 10 to 24 | 2 |
| 25 to 49 | 3 |
| 50 to 74 | 4 |
| 75 to 100 | 5 |
| over 100 | 6 plus 1 for each additional increment of 30 persons of each sex in excess of 100 |
| Column 1 | 2 |

(2) Not more than one water closet to serve both sexes need be provided in a Group F occupancy where

- (a) the *occupant load* is not more than 9 persons, or
- (b) the total area of the *occupancy*, excluding *basements*, is not more than 300 m².

3.7.4.10. Plumbing Fixtures for Mobile Home Facilities

(1) If mobile homes do not have individual plumbing facilities connected to a central water supply and drainage system, a service building shall be provided for public use.

(2) The service building required by Sentence (1) shall contain

- (a) at least one water closet for each sex if the service building facilities serve not more than 10 mobile homes, and
- (b) an additional water closet for each sex for each additional 10 mobile homes.

(3) If a service building is required by Sentence (1) it shall contain lavatories as required by Sentence 3.7.4.2.(5) and at least

- (a) one laundry tray or similar facility, and
- (b) one bathtub or shower for each sex.

3.7.4.11. Safety Glass

(1) Glass, other than safety glass, shall not be used for a shower or bathtub enclosure.

3.7.4.12. Surface Protection near Urinals

(1) Wall and floor surfaces below the uppermost surfaces of urinals shall be protected from deterioration for a distance from the urinal to a point not less than 900 mm from the projected outline of the urinal on to the wall or floor by impervious and durable material.

3.7.4.13. Floor Drains

(1) A floor drain shall be installed in a washroom containing urinals equipped with automatic flushing devices.

3.7.4.14. Grab Bar Installation

(1) Grab bars that are installed shall resist a minimum load of 1.3 kN applied vertically or horizontally.

3.7.4.15. Location of Plumbing Fixtures

- (1) A room containing a water closet shall be located where
- (a) it does not open directly into any room or area where food is intended to be stored, prepared, processed, distributed, served, sold or offered for sale, and
 - (b) it is not necessary for the public to go through the food preparation areas to gain access to the *plumbing fixtures*.
- (2) Except as permitted in Sentence (3), a room containing *plumbing fixtures* for the public and employees in a restaurant shall be located in the restaurant.
- (3) The room containing *plumbing fixtures* for the public in Sentence (2) need not be located in the restaurant where
- (a) the room is located in the *building* containing the restaurant, and
 - (b) the distance of travel between the restaurant and the room is not more than 45 m.

3.7.4.16. Privacy

- (1) If a room contains not more than 1 water closet, the doorway to the room shall be provided with a full height door which is capable of being locked from the inside.
- (2) If a room contains not less than 2 water closets or not less than 1 water closet and 1 urinal, the room shall be designed so that water closets, urinals and lavatories are not visible from the entrance to the room.

3.7.4.17. Water Temperature Control

- (1) A water distribution system supplying hot water to bathtubs, showers and hand basins that are accessible to patients or residents in Group B, Division 2 or 3 *occupancies* or residents of a group home, shall have one or more temperature gauges and control devices that are
- (a) accessible only to supervisory staff, and
 - (b) capable of being adjusted to ensure that the temperature of the water supplied to the fixtures does not exceed 49°C.

3.7.4.18. Drinking Water

- (1) On every floor where work will be performed and within 100 m of any area where work will be performed, *potable* water shall be provided from
- (a) a fountain with an upward jet,
 - (b) a tap from a piped water supply, or
 - (c) a tap from a covered vessel.

3.7.4.19. Pharmacies

- (1) Every *pharmacy* shall be provided with a sink with hot and cold *potable* water for washing utensils used in the preparation, service or storage of drugs.

3.7.5. Health Care Facility Systems**3.7.5.1. Electrical Systems**

- (1) In anaesthetizing locations, electrical systems shall be designed, constructed, installed and tested in conformance with CSA Z32.1, "Code for Prevention of Explosions or Electrical Shock in Hospital Operating Rooms".

3.7.5.2. Medical Gas Piping

- (1) All medical gas piping systems shall be designed, constructed, installed and tested in conformance with CSA Z305.1, "Nonflammable Medical Gas Piping Systems".

3.7.5.3. Shielding of X-Ray Equipment

- (1) Every installation of an *x-ray machine* or of *x-ray equipment* in a *building* shall be shielded to protect any person who could be exposed to radiation inside and outside the *building*.

Section 3.8. Barrier-Free Design**3.8.1. General****3.8.1.1. Application**

- (1) The requirements of this Section apply to all *buildings* except
- (a) houses, including semi-detached houses, duplexes, triplexes, town houses, row houses and boarding or rooming houses with fewer than 8 boarders or roomers,
 - (b) *buildings* of Group F, Division 1 *major occupancy*, and
 - (c) *buildings* which are not intended to be occupied on a daily or full time basis, including automatic telephone exchanges, pumphouses and substations.

3.8.1.2. Entrances

- (1) In addition to the *barrier-free* entrances required by Sentence (2), the number of *barrier-free* entrances in a *building* referred to in Sentence 3.8.1.1.(1) shall be not less than those as specified in Table 3.8.1.2. and shall lead from
- (a) the outdoors at sidewalk level, or
 - (b) a ramp that conforms to Article 3.8.3.4. and leads from a sidewalk.

Table 3.8.1.2.

**Minimum Number of Pedestrian Entrances
Required to be Barrier-Free**

Forming Part of Sentence 3.8.1.2.(1)

| Number of pedestrian entrances into building | Minimum number of pedestrian entrances required to be barrier-free |
|--|--|
| 1 to 3 | 1 |
| more than 3 to 5 | 2 |
| more than 5 | not less than 50 percent |
| Column 1 | 2 |

(2) A *suite of assembly occupancy, business and personal services occupancy or mercantile occupancy* that is located in the *first storey* of a *building* or in a *storey* to which a *barrier-free* path of travel is provided, and that is separated from the remainder of the *building*, so that there is no access to the remainder of the *building*, shall have at least one *barrier-free* entrance.

(3) A *barrier-free* entrance required by Sentences (1) or (2) shall be designed in accordance with Article 3.8.3.3.

(4) At a *barrier-free* entrance that includes more than one doorway, only one of the doorways is required to be designed in accordance with the requirements of Article 3.8.3.3.

3.8.1.3. Barrier-Free Path of Travel

(1) Except as required in Sentence (4) and except as permitted in Subsection 3.8.3., every *barrier-free* path of travel shall provide an unobstructed width of at least 1 060 mm for the passage of wheelchairs.

(2) Interior and exterior walking surfaces that are within a *barrier-free* path of travel shall

- (a) have no opening that will permit the passage of a sphere more than 13 mm in diam,
- (b) have any elongated openings oriented approximately perpendicular to the direction of travel,
- (c) be stable, firm and slip-resistant,
- (d) be bevelled at a maximum slope of 1 in 2 at changes in level not more than 13 mm, and
- (e) be provided with sloped floors or ramps at changes in level more than 13 mm.

(3) A *barrier-free* path of travel is permitted to include ramps, elevators or other platform elevating devices where there exists a difference in elevation.

(4) Every *barrier-free* path of travel less than 1 600 mm in width shall be provided with an unobstructed space not less than 1 600 mm in width and 1 600 mm in length located not more than 30 m apart.

(5) Where the headroom of an area in a *barrier-free* path of travel is reduced to less than 1 980 mm, a guardrail or other barrier with its leading edge at or below 680 mm from the floor shall be provided.

3.8.1.4. Storeys Served by Escalators

(1) In a *building* in which an escalator provides access to any *storey* above or below the entrance *storey*, an interior *barrier-free* path of travel shall be provided to that *storey*.

3.8.1.5. Controls

(1) Except as provided in Article 3.8.3.5. for elevators, controls for the operation of *building* services or safety devices, including electrical switches, thermostats and intercom switches, intended to be operated by the occupant and located in a *barrier-free* path of travel shall be accessible to a person in a wheelchair, operable with one hand and mounted at not more than 1 200 mm above the floor.

3.8.1.6. Illumination

(1) All portions of a *barrier-free* path of travel shall be equipped to provide a level of illumination in accordance with Sentence 3.2.7.1.(1).

3.8.2. Occupancy Requirements

3.8.2.1. Areas Requiring Barrier-Free Path of Travel

(1) Except where essential obstructions in the work area would make a *barrier-free* path of travel hazardous, and except as provided in Sentences (2), (3) and (4), a *barrier-free* path of travel from the entrances required by Sentences 3.8.1.2.(1) and (2) to be *barrier-free* shall be provided throughout the entrance *storey* and within all normally occupied *floor areas* served by a passenger type elevator or other platform equipped passenger elevating device.

(2) The provision of a *barrier-free* path of travel in Sentence (1) does not apply

- (a) to *service rooms*,
- (b) to elevator machine rooms,
- (c) to janitors rooms,
- (d) to *service spaces*,
- (e) to crawl spaces,
- (f) to *attic or roof spaces*,
- (g) to *mezzanines* not served by a passenger elevator or other platform equipped passenger elevating device,
- (h) to *high hazard industrial occupancies*
- (i) within portions of a *floor area* with fixed seats in an *assembly occupancy* where these portions are not part of the *barrier-free* path of travel to spaces designated for wheelchair use,
- (j) into *suites of residential occupancy* that are in *storeys* other than the entrance *storey* and that have all entrance doors at floor levels that do not correspond to elevator stop levels,
- (k) within a *suite of residential occupancy*, or
- (l) within those parts of a *floor area* that are not at the same level as the entry level, provided amenities and uses provided on any raised or sunken level are accessible on the entry level by means of a *barrier-free* path of travel.

(3) Where a balcony is provided in a *dwelling unit*, access shall be provided to the balcony

- (a) by a doorway with a clear width of not less than 800 mm when the door is in the open position, and

- (b) such that no projection above the walking surface is more than 13 mm.

(4) The minimum number of spaces designated for wheelchair use in an *assembly occupancy* with fixed seats shall conform to Table 3.8.2.1.

Table 3.8.2.1.

Designated Wheelchair Spaces

Forming Part of Sentence 3.8.2.1.(4)

| Number of Fixed Seats in Seating Area | Minimum Number of Spaces Required for Wheelchairs |
|---------------------------------------|---|
| up to 100 | 2 |
| 101 to 200 | 3 |
| 201 to 300 | 4 |
| 301 to 400 | 5 |
| 401 to 600 | 6 |
| Over 600 | Not less than 1 per cent of the seating capacity |
| Column 1 | 2 |

3.8.2.2. Access to Parking Areas

(1) A *barrier-free* path of travel shall be provided from the entrance described in Article 3.8.1.2. to

- (a) an exterior parking area, where exterior parking is provided, and
- (b) at least one parking level, where a passenger elevator serves an indoor parking level.

(2) The vehicular entrance to and egress from at least one parking level described in Sentence (1) and all areas intended to be used by wheelchair accessible vehicles to gain access to a parking space on that level shall have a vertical clearance of not less than 2 100 mm.

- (3) If an exterior passenger loading zone is provided, it shall have
 - (a) an access aisle not less than 1 750 mm wide and 7.5 m long adjacent and parallel to the vehicle pull-up space,
 - (b) a curb ramp, where there are curbs between the access aisle and the vehicle pull-up space, and
 - (c) a clearance height of not less than 2 750 mm at the vehicle pull-up space and along the vehicle access and egress routes.

3.8.2.3. Washrooms Required to be Barrier-Free

(1) Except where other *barrier-free* washrooms are provided on the same floor level within 45 m and except within *suites* of *residential occupancy*, and *buildings* exempted in Clauses 3.8.1.1.(1)(a), (b) and (c), in *buildings* where a washroom is required in accordance with Subsection 3.7.4., a *barrier-free* path of travel shall be provided to a *barrier-free* washroom designed to accommodate disabled persons in conformance with the appropriate requirements in Articles 3.8.3.8. to 3.8.3.12.

(2) Except as permitted in Sentence (3), where washrooms in excess of those required by Subsection 3.7.4. are provided in a *storey* to which a *barrier-free* path of travel is required in conformance with Article 3.8.2.1., these washrooms shall be designed to accommodate disabled persons in conformance with the appropriate requirements in Articles 3.8.3.8. to 3.8.3.12.

(3) Washrooms need not conform to the requirements in Sentence (2) provided

- (a) they are located within *suites* of *residential occupancy*,

(b) other *barrier-free* washrooms are provided on the same floor level within 45 m, or

(c) they are located in an individual *suite* having an area of less than 300 m² in *buildings* where such *suite* is completely cut off from the remainder of the *building* so that there is no access to the remainder of the *building*.

3.8.3. Design Standards

3.8.3.1. Accessibility Signs

(1) Where a *building* is required to have a *barrier-free* entrance to accommodate disabled persons, signs incorporating the international symbol of accessibility for disabled persons shall be installed where necessary to indicate the location of that entrance.

(2) Where a washroom, elevator, telephone or parking area is required to accommodate disabled persons, it shall be identified by a sign consisting of the international symbol of accessibility for disabled persons and such other graphic, tactile or written directions as are needed to indicate clearly the type of facility available.

(3) Where a washroom is not designed to accommodate disabled persons in a *storey* to which a *barrier-free* path of travel is required, signs shall be provided to indicate the location of the *barrier-free* facilities.

(4) Signs incorporating the international symbol of accessibility for disabled persons shall be installed where necessary to indicate the location of the accessible *means of egress*.

3.8.3.2. Exterior Walks

(1) Except as provided in Sentence (2), exterior walks that form part of a *barrier-free* path of travel shall

- (a) be provided by means of a continuous plane not interrupted by steps or abrupt changes in level,
- (b) have a permanent, firm and slip-resistant surface,
- (c) except as required in Sentence 3.8.1.3.(4), have an uninterrupted width of not less than 1 100 mm and a gradient not exceeding 1 in 20,
- (d) be designed as a ramp where the gradient is greater than 1 in 20,
- (e) have not less than 1 100 mm wide surface of a different texture to that surrounding it, where the line of travel is level and even with adjacent walking surfaces,
- (f) be free from obstructions for the full width of the walk to a minimum height of 1 980 mm, except that handrails are permitted to project not more than 100 mm from either side into the clear area, and
- (g) have a level area adjacent to the entrance doorway conforming to Clause 3.8.3.4.(1)(c).

(2) Where a difference in elevation between levels in a walkway is not more than 200 mm, a curb ramp conforming the Sentences (3) and (4) may be provided.

(3) The curb ramp permitted by Sentence (2) shall

- (a) have a running slope of not more than permitted in Table 3.8.3.2.,
- (b) have a width of not less than 1 200 mm exclusive of flared sides,

- (c) have a surface including flared sides which shall
 - (i) be slip resistant,
 - (ii) have a detectable warning surface that is colour- and texture-contrasted with the adjacent surfaces, and
 - (iii) have a smooth transition from the ramp and adjacent surfaces, and
 - (d) have flared sides with a slope of not more than 1:10 where pedestrians are likely to walk across them.
- (4) Curb ramps described in Sentence (3) do not require handrails or guards.

Table 3.8.3.2.

Ramp Rise and Slope

Forming Part of Sentence 3.8.3.2.(3)

| Maximum Vertical Rise Between Surfaces, mm | Maximum Slope |
|--|---------------|
| 200 | 1:10 to 1:12 |
| 75 | 1:8 to 1:10 |
| Column 1 | 2 |

3.8.3.3. Doorways and Doors

(1) Every doorway that is located in a *barrier-free* path of travel shall have a clear width of not less than 810 mm when the door is in the open position,

(2) Except where no bathroom within the *suite* is at the level of the *suite* entrance door to which a *barrier-free* path of travel is provided in accordance with Sentence 3.8.2.1.(1), the doorway to at least 1 bathroom and to each bedroom at the same level as such bathroom within a *suite* of *residential occupancy* shall have, when the door is in the open position, a clear width of not less than

- (a) 760 mm where the door is served by a corridor or space not less than 1 060 mm wide, and
- (b) 810 mm where the door is served by a corridor or space less than 1 060 mm wide

(3) Door opening devices that are the only means of operation shall be of a design which does not require tight grasping and twisting of the wrist.

(4) Thresholds for doorways referred to in Sentences (1) and (2) shall not exceed 13 mm in height above the finished floor surface and shall be bevelled to facilitate the passage of wheelchairs.

(5) Except as permitted in Sentence (7), the door for the entrance described in Article 3.8.1.2. shall be equipped with a power door operator in

- (a) *hotels*,
- (b) *buildings* of Group B, Division 2 or 3 *major occupancy*, and
- (c) *buildings* of Group A, D or E *major occupancy* having more than 300 m² in *building area*.

(6) Except as permitted in Sentence (7), where the entrance described in Article 3.8.1.2. incorporates a vestibule, a door leading from the vestibule into the floor area shall be equipped with a power door operator in

- (a) *hotels*,
- (b) *buildings* of Group B, Division 2 and 3, *major occupancy*, and
- (c) *buildings* of Group A, D or E *major occupancy* having more than 300 m² in *building area*.

(7) The requirements in Sentence (5) and (6) do not apply to an individual *suite* having an area of less than 300 m² in *buildings* having only *suites* of Group A, D or E *occupancy* where such *suite* is completely cut off from the remainder of the *building*.

(8) Except as permitted in Sentence (9), and except for doors with power operators, closers for doors in a *barrier-free* path of travel shall be designed to permit doors to open when a force of not more than 38 N is applied to the handles, push plates or latch-releasing devices in the case of exterior doors and 22 N in the case of interior doors.

(9) Sentence (8) does not apply to doors at the entrances to *dwelling units*, or where greater forces are required in order to close and latch the doors against prevailing differences in air pressures on opposite sides of the doors.

(10) Except for doors at the entrances to *dwelling units*, closers for interior doors in a *barrier-free* path of travel shall have a closing period of not less than 3 seconds measured from when the door is in an open position of 70° to the doorway, to when the door reaches a point 75 mm from the closed position, measured from the leading edge of the latch side of the door.

(11) Every door equipped with a closer in a *barrier-free* path of travel shall have a clear space beyond the latch side of not less than

- (a) 600 mm where the door swings towards the approach side, and
- (b) 300 mm where the door swings away from the approach side.

(12) Vestibules located in a *barrier-free* path of travel shall be arranged to allow the movement of wheelchairs between doors and shall provide a distance between 2 doors in series of at least 1 200 mm plus the width of any door that swings into the space in the path of travel from one door to another.

(13) Only the active leaf in a multiple leaf door in a *barrier-free* path of travel need conform to the requirements of this Article.

(14) Where a vision panel is provided in a door in a *barrier-free* path of travel, such panel shall be at least 75 mm in width and be located so that

- (a) the bottom of the panel is not more than 900 mm above the finished floor, and
- (b) the edge of the panel closest to the latch is not more than 250 mm from the latch side of the door.

(15) A door in a *barrier-free* path of travel consisting of a sheet of glass shall be marked with a continuous opaque strip which

- (a) shall be colour and brightness contrasted to the background of the door,
- (b) shall be at least 50 mm wide,
- (c) shall be located across the width of the door at a height of 1 350 mm to 1 500 mm above the finished floor, and

- (d) may incorporate a logo or symbol provided such logo or symbol does not diminish
 - (i) the opacity of the strip,
 - (ii) the width of the strip,
 - (iii) the colour and brightness contrast of the strip to the background of the door, and
 - (iv) the continuity of the strip across the width of the door.

3.8.3.4. Ramps

- (1) Ramps located in a *barrier-free* path of travel shall
 - (a) have a minimum width of 870 mm between handrails,
 - (b) have a maximum gradient of 1 in 12,
 - (c) have a level area of at least 1 500 mm by 1 500 mm at the top and bottom of a ramp and where a door is located in a ramp, so that the level area extends at least 600 mm beyond the latch side of the door opening, except that where the door opens away from the ramp, the area extending beyond the latch side of the door opening may be reduced to 300 mm,
 - (d) have a level area at least 1 500 mm long and at least the same width as the ramp
 - (i) at intervals of not more than 9 m along its length, and
 - (ii) where there is an abrupt change in the direction of the ramp,
 - (e) except as provided in Sentence (2), be equipped with handrails on both sides which shall
 - (i) be continuously graspable along their entire length and have circular cross-section with an outside diameter not less than 30 mm and not more than 40 mm, or any non-circular shape with a graspable portion that has a perimeter not less than 100 mm and not more than 155 mm and whose largest cross-sectional dimension is not more than 57 mm,
 - (ii) be not less than 865 mm and not more than 965 mm high, measured vertically from the surface of the ramp, except that handrails not meeting these requirements are permitted provided they are installed in addition to the required handrail,
 - (iii) be terminated in a manner which will not obstruct pedestrian travel or create a hazard,
 - (iv) extend horizontally not less than 300 mm beyond the top and bottom of the ramp,
 - (v) be provided with a clearance of not less than 40 mm between the handrail and any wall to which it is attached, and
 - (vi) be designed and constructed such that handrails and their supports will withstand the loading values obtained from the nonconcurrent application of a concentrated load not less than 0.9 kN applied at any point and in any direction for all handrails and a uniform load not less than 0.7 kN/m applied in any direction to the handrail,
 - (f) except as provided in Sentence (2), have a wall or a *guard* on both sides and where a *guard* is provided the *guard* shall

- (i) be not less than 1 070 mm measured vertically to the top of the *guard* from the ramp surface, and
- (ii) be designed so that no member, attachment or opening located between 140 mm and 900 mm above the ramp surface being protected by the *guard* will facilitate climbing, and
- (g) be provided
 - (i) with a curb at least 50 mm high on any side of the ramp where no solid enclosure or solid *guard* is provided, and
 - (ii) with railings or other barriers that extend to within 50 mm of the finished ramp surface or have a curb not less than 50 mm high.

(2) Where a ramp serves as an aisleway for fixed seating, the requirements for handrails in Clause 3.8.3.4.(1)(e) need not apply.

(3) Floors or walks in a *barrier-free* path of travel having a slope steeper than 1 in 20 shall be designed as ramps.

3.8.3.5. Elevators

(1) The passenger-type elevator in Article 3.8.2.1. shall conform to Appendix E of CAN/CSA B44, "Safety Code for Elevators".

(2) The passenger-type elevating device in Article 3.8.2.1. shall conform to CAN/CSA-B355, "Lifts for Persons with Physical Disabilities".

3.8.3.6. Spaces in Seating Area

- (1) Spaces designated for wheelchair use in Sentence 3.8.2.1.(4) shall be
 - (a) clear and level or level with removable seats,
 - (b) not less than 900 mm wide and 1 525 mm long to permit a wheelchair to enter from a side approach, and 1 220 mm long where the wheelchair enters from the front or rear of the space,
 - (c) arranged so that at least two designated spaces are side by side,
 - (d) located adjoining a *barrier-free* path of travel without infringing on egress from any row of seating or any aisle requirements, and
 - (e) situated, as part of the designated seating plan, to provide a choice of viewing location and a clear view of the event taking place.

3.8.3.7. Assistive Listening Devices

(1) In *buildings of assembly occupancy*, all classrooms, auditoria, meeting rooms and *theatres* with an area of more than 100 m² and an *occupant load* of more than 75 shall be equipped with assistive listening systems encompassing the entire seating area.

3.8.3.8. Water Closet Stalls

- (1) Where a washroom is required by Article 3.8.2.3. to *barrier-free*, at least 1 water closet stall or enclosure shall
 - (a) be at least 1 500 mm in width by 1 500 mm in depth,
 - (b) be equipped with a door which shall
 - (i) be capable of being locked from the inside with a locking mechanism that is operable by one hand,

- (ii) provide, when the door is in an open position, a clear opening of at least 810 mm,
- (iii) swing outward, unless 760 mm by 1 220 mm clear floor area is provided within the stall or enclosure to permit the door to be closed without interfering with the wheelchair,
- (iv) be provided with spring-type or gravity hinges so that the door closes automatically,
- (v) be provided with a door pull on the outside, near the latch side of the door, and
- (vi) be aligned with the clear manoeuvring space adjacent to the water closet,
- (c) have a water closet located so that its centreline is not less than 460 mm and not more than 480 mm from an adjacent side wall on one side,
- (d) be equipped with grab bars which shall
 - (i) be at least 760 mm in length and mounted at a 30° to 50° angle sloping upwards, away from the water closet with the lower end of the bar mounted 230 mm above the toilet seat and 50 mm in front of the toilet bowl, or alternatively, be L-shaped with 760 mm long horizontal and vertical components mounted with the horizontal component 230 mm above the toilet seat and the vertical component 150 mm in front of the toilet bowl,
 - (ii) be at least 600 mm in length mounted horizontally on the wall behind the water closet from 840 mm to 920 mm above the floor and, where the water closet has a water tank, be mounted 150 mm above the tank,
 - (iii) Reserved
 - (iv) be installed to resist a load of at least 1.3 kN applied vertically or horizontally,
 - (v) be not less than 30 mm and not more than 40 mm in diameter,
 - (vi) have a clearance of 30 mm to 40 mm from the wall, and
 - (vii) have a slip resistant surface,
- (e) be equipped with a coat hook mounted not more than 1 200 mm above the floor on a side wall and projecting not more than 50 mm from the wall,
- (f) have a clearance of at least 1 700 mm between the outside of the stall face and the face of an in-swinging washroom door and 1 400 mm between the outside of the stall face and any wall-mounted fixture or other obstruction, and
- (g) when a toilet paper dispenser is provided, provide a dispenser that is
 - (i) wall mounted,
 - (ii) located below the grab bar,
 - (iii) in line with or not more than 300 mm in front of the toilet seat, and
 - (iv) not less than 600 mm above the floor.

3.8.3.9. Water Closets

- (1) Water closets for a person with physical disabilities shall
 - (a) be equipped with a seat located at not less than 400 mm and not more than 460 mm above the floor,
 - (b) be equipped with hand-operated flushing controls that are easily accessible to a wheelchair user or be automatically operable,
 - (c) be equipped with a back support where there is no seat lid or tank, and
 - (d) not have a spring-activated seat.

3.8.3.10. Reserved**3.8.3.11. Lavatories**

- (1) A *barrier-free* washroom shall be provided with a lavatory which shall
 - (a) be located so that the distance between the centreline of the lavatory and the side wall is not less than 460 mm,
 - (b) be mounted so that the top of the lavatory or, where the lavatory is in a vanity, the top of the vanity is not more than 840 mm above the finished floor,
 - (c) have a clearance beneath the lavatory not less than
 - (i) 760 mm wide,
 - (ii) 735 mm high at the front edge,
 - (iii) 685 mm high at a point 205 mm back from the front edge, and
 - (iv) 230 mm high over the distance from a point 280 mm to a point 430 mm back from the front edge,
 - (d) have insulated pipes where they would otherwise present a burn hazard or have water supply temperature limited to a maximum of 43°C,
 - (e) be equipped with faucet handles of the lever type without spring loading or be automatically operable and are located so that the distance from the centreline of the faucet to the edge of the basin or, where the basin is mounted in a vanity, to the front edge of the vanity, is not more than 485 mm, and
 - (f) have soap or towel dispensers that are
 - (i) located to be accessible to persons in a wheelchair,
 - (ii) located so that the dispensing height is not more than 1 200 mm above the floor, and
 - (iii) operable with one hand.

(2) The lavatory required by Sentence (1) is permitted to be built into a counter provided the height and clearances required by Sentence (1) are maintained.

(3) Shelves or other projections above lavatories shall be located so that they will not present a hazard to a person with a visual disability.

(4) If mirrors are provided in a *barrier-free* washroom, at least one mirror shall be

- (a) mounted with its bottom edge not more than 1 000 mm above the floor, or
- (b) inclined to the vertical to be usable by a person in a wheelchair.

(5) If dispensing or hand-operated washroom accessories, except those located in toilet stalls or described in Clause 3.8.3.11.(1)(f), are provided, they shall be mounted so that the dispensing height is between 900 mm and 1 200 mm above the floor.

3.8.3.12. Special Washrooms

(1) A special washroom provided primarily for the use of persons of both sexes with physical disabilities, in lieu of facilities for persons with physical disabilities in washrooms used by the general public, shall

- (a) be provided on the same floor level within 45 m of the washrooms described in Sentence 3.8.2.3.(1),
- (b) be equipped with a door capable of being locked from the inside with one hand and released from the outside in case of emergency and which has
 - (i) graspable latch operating and locking mechanisms located not less than 900 mm and not more than 1 000 mm above the floor, and
 - (ii) on an outward swinging door, a door pull not less than 140 mm long located on the inside so that its midpoint is not less than 200 mm and not more than 300 mm from the hinged side of the door and not less than 900 mm and not more than 1 000 mm above the floor,
- (c) be provided with a lavatory conforming to Article 3.8.3.11.,
- (d) be equipped with a water closet conforming to the requirements of Article 3.8.3.9. and located
 - (i) so that its centreline is not less than 460 mm and not more than 480 mm from an adjacent side wall on one side, and
 - (ii) not less than 1 020 mm to the wall on the other side,
- (e) be equipped with grab bars conforming to Clause 3.8.3.8.(1)(d),
- (f) have no dimension less than 1 700 mm,
- (g) have fixture clearances conforming to Articles 3.8.3.8. and 3.8.3.11.,
- (h) be equipped with
 - (i) a coat hook conforming to Clause 3.8.3.8.(1)(e), and
 - (ii) a shelf located not more than 1 000 mm above the floor in a location accessible to a person in a wheelchair,
- (i) have a doorway conforming to Article 3.8.3.3.,
- (j) be designed to permit a wheelchair to back in alongside the water closet in the space referred to in Subclause (d)(ii), and
- (k) be designed to permit a wheelchair to turn in an open space that has a diameter not less than 1 500 mm.

3.8.3.13. Showers

(1) Where individual shower stalls are provided in *buildings of assembly occupancy*, at least one shower stall shall be *barrier-free* and shall

- (a) be at least 1 500 mm in width and 900 mm in depth,
 - (b) have a clear floor space at the entrance to the shower of at least 900 mm in depth and the same width as the shower, except that fixtures are permitted to project into that space provided they do not restrict access to the shower,
 - (c) have a slip-resistant floor surface,
 - (d) have a bevelled threshold not exceeding 13 mm in height above the finished floor,
 - (e) be equipped with a wall mounted folding seat that is not spring-loaded or provision for a portable seat that is
 - (i) 38 mm to 62 mm less than the shower compartment depth in width by 430 mm to 530 mm in depth,
 - (ii) mounted approximately 450 mm above the floor, and
 - (iii) designed to carry a minimum load of 1.33 kN,
 - (f) be equipped with a grab bar which shall
 - (i) be at least 900 mm in length,
 - (ii) be mounted approximately 850 mm above the floor,
 - (iii) be located on the wall so that at least 300 mm of its length is reachable from one side of the seat, and
 - (iv) conform to Subclauses 3.8.3.8.(1)(d)(iv),(v) and (vi),
 - (g) be equipped with a pressure-equalizing or thermostatic mixing valve controlled by lever or other device operable with a closed fist from the seated position,
 - (h) be equipped with a hand-held shower head with at least 1 500 mm of flexible hose located so that it can be reached from the seated position and equipped with a support so that it can operate as a fixed shower head, and
 - (i) have fully recessed soap holders which can be reached from the seated position.
- (2) Individual shower stalls that are provided for use by patients or residents in *buildings* of Group B, Division 2 or 3 *occupancy* shall conform to the requirements of Sentence (1).
- (3) Individual bathtubs that are provided for the use of patients or residents in *buildings* of Group B, Division 2 or 3 *occupancy* shall have
- (a) faucet handles of the lever type that are not spring-loaded or be automatically operable,
 - (b) faucet handles that are located so as to be usable by a person seated in the bathtub, and
 - (c) unless the bathtub is free-standing, an "L"-shaped grab bar conforming to Subclauses 3.8.3.8.(1)(d)(iv) to (vi) mounted on the wall
 - (i) with each leg of the "L" being at least 900 mm long,

- (ii) with the legs of the "L" being separated by 90°,
- (iii) with the horizontal leg of the "L" being located between 150 mm and 200 mm above and parallel to the rim of the bathtub, and
- (iv) with the vertical leg of the "L" being located between 300 mm and 450 mm from the control end of the bathtub.

3.8.3.14. Reserved**3.8.3.15. Shelves or Counters for Telephones**

(1) Where built-in shelves or counters are provided for public telephones, they shall be level and shall

- (a) be not less than 350 mm deep, and
- (b) have, for each telephone provided, a clear space not less than 250 mm wide having no obstruction within 250 mm above the surface.

(2) The top surface of a section of the shelf or counter described in Sentence (1) serving at least one telephone shall

- (a) be not more than 865 mm from the floor, and
- (b) have a knee space not less than 685 mm high.

(3) Where a wall-hung telephone is provided above the shelf or counter section described in Sentence (2), it shall be located so that the receiver and coin slot are not more than 1 200 mm from the floor.

3.8.3.16. Drinking Fountains

(1) Where drinking fountains are provided, at least one shall be *barrier-free* and shall

- (a) have a spout located near the front of the unit not more than 915 mm above the floor, and
- (b) be equipped with controls that are easily operated from a wheelchair using one hand with a force of not more than 22 N or be automatically operable.

Section 3.9. Portable Classrooms**3.9.1. Scope****3.9.1.1. Application**

(1) Except as provided in this Section, the requirements in the Code apply to portable classrooms.

3.9.1.2. Heating Systems

(1) Heating systems and equipment in a portable classroom shall be designed and installed in accordance with Section 6.2.

3.9.2. Interior Finish**3.9.2.1. Flame-Spread Rating**

(1) Interior finish material used on a wall or ceiling of a portable classroom shall have a *flame-spread rating* of 150 or less.

3.9.3. Application**3.9.3.1. Building Areas**

(1) A single portable classroom shall be not more than 100 m² in *building area*, and not more than 1 *storey* in *building height*.

(2) For the purposes of Subsection 3.2.2., where the horizontal distance between portable classrooms is less than 6 m, a group of portable classrooms may be considered as a single *building* with a *building area* equal to the aggregate area of the portable classrooms.

3.9.3.2. Spatial Separations

(1) The requirements in Subsection 3.2.3. need not be provided between individual portable classrooms where the distance between the classrooms is 6 m or more.

(2) The requirements in Subsection 3.2.3. need not be provided between individual portable classrooms within a group where

- (a) the portable classrooms are in groups where
 - (i) the distance between the classrooms is less than 6 m,
 - (ii) the number of classrooms in a group is not more than 6, and
 - (iii) the distance between groups of classrooms is 12 m or more, or
- (b) the portable classrooms are in groups where
 - (i) the *means of egress* for each classroom within a group is by a common corridor or passageway,
 - (ii) the number of portable classrooms in a group is not more than 6, and
 - (iii) the distance between groups of portable classrooms is 12 m or more.

3.9.3.3. Fire Alarm Systems

(1) Except as provided in Sentences (2) and (3), the fire alarm system in the main school *building* shall be extended to the portable classrooms with a separate zone indicator on the annunciator.

(2) The requirements in Sentence (1) need not be provided where there are not more than 12 portables on a site and where

- (a) Reserved
- (b) the distance between portable classrooms is less than 6 m and the requirements of Subsection 3.2.3. are applied between the classrooms, or
- (c) the portable classrooms are in groups where
 - (i) the distance between the classrooms is less than 6 m,
 - (ii) the number of classrooms in a group does not exceed 6,
 - (iii) within a group of classrooms, the facing walls have a *fire-resistance rating* of 45 min, rated from inside the classroom, and
 - (iv) the distance between groups of classrooms is 12 m or more.

(3) The requirements in Sentence (1) need not be provided where the distance between portable classrooms is 6 m or more.

3.9.3.4. Provisions for Fire-fighting

(1) The requirements in Articles 3.2.2.10. and 3.2.5.1. to 3.2.5.7. need not be provided where there are not more than 12 portable classrooms on a site and where

- (a) the distance between portable classrooms is 6 m or more,
- (b) the distance between portable classrooms is less than 6 m and the requirements of Subsection 3.2.3. are applied between the classrooms,
- (c) the portable classrooms are in groups where
 - (i) the distance between the classrooms is less than 6 m,
 - (ii) the number of classrooms in a group is not more than 6,
 - (iii) within a group of classrooms, the facing walls have a *fire-resistance rating* of 45 min, rated from inside the classroom, and
 - (iv) the distance between groups of classrooms is 12 m or more,
- (d) the portable classrooms are in groups where
 - (i) the distance between the classrooms is less than 6 m,
 - (ii) the number of classrooms in a group is not more than 6, and
 - (iii) the distance between groups of classrooms is 12 m or more, or
- (e) the portable classrooms are in groups where
 - (i) the *means of egress* for each classroom within a group is by a common corridor or passageway
 - (ii) the number of classrooms in a group is not more than 6, and
 - (iii) the distance between groups of classrooms is 12 m or more.

3.9.3.5. Portable Fire Extinguishers

(1) A fire extinguisher, in accordance with Article 3.2.5.17., shall be installed in each portable classroom.

3.9.3.6. Means of Egress

(1) Except as required in Sentence 3.9.3.7.(1), a portable classroom shall be provided with *means of egress* conforming to Sections 3.3. and 3.4.

3.9.3.7. Fuel-Fired Appliances

(1) Where there is only one egress door from a portable classroom, a fuel-fired *appliance* shall be separated from the remainder of the classroom by a *fire separation* with a *fire-resistance rating* of not less than 45 min.

(2) Except as provided in Sentences (3) and (4), if a portable classroom contains a fuel-fired *appliance*, the *appliance* shall be separated from the remainder of the classroom by a *fire separation* having a *fire-resistance rating* not less than

- (a) 1.5 h where the horizontal distance between portable classrooms is 1 500 mm or less, and

- (b) 45 min where the horizontal distance between portable classrooms is more than 1 500 mm.

(3) If the horizontal distance between portable classrooms is 6 m or more, a fuel-fired *appliance* need not be separated from the remainder of the classroom by a *fire separation* provided

- (a) there is not more than 1 *appliance* per portable classroom, and
 - (b) the *appliance* is located not less than 4.5 m from an *egress* doorway or an *exit* from the portable classroom.
- (4) Fuel-fired *appliances* with sealed combustion located in a portable classroom are not required to be separated from the remainder of the classroom
- (a) if there are not more than four portable classrooms in a group, and
 - (b) if the *appliance* is located not less than 4.5 m from an *egress* doorway or an *exit* from the portable classroom.

3.9.3.8. Washroom Facilities

(1) Washroom facilities need not be provided in a portable classroom where the facilities in the main school *building* comply with the requirements of Subsection 3.7.4. for the total *occupant load* of the main school *building* and the portable classrooms.

3.9.3.9. Barrier-Free Access

(1) The requirements of Section 3.8. for *barrier-free* access need not be provided for a portable classroom provided that the main school *building* complies with the requirements of Section 3.8.

Section 3.10. Self-Service Storage Buildings**3.10.1. Scope****3.10.1.1. Application**

(1) Except as provided in this Section, the requirements in the Code apply to *self-service storage buildings*.

3.10.2. Requirements for All Buildings**3.10.2.1. Occupancy Classification**

- (1) A *self-service storage building*
 - (a) shall comply with the requirements for a Group F, Division 2 *major occupancy*, and
 - (b) shall not contain a Group F, Division 1 *occupancy*.

3.10.2.2. Occupant Load

- (1) The requirements based on *occupant load* shall not apply.

3.10.2.3. Structural Fire Protection

(1) Except as provided in Sentence (2) and Sentence 3.10.4.2.(1), the requirements in Subsections 3.2.1. and 3.2.2. shall apply.

(2) The *first storey* shall be subdivided into areas not more than 500 m² by a masonry or reinforced concrete *fire separation* having a *fire-resistance rating* not less than 1 h, or it shall be *sprinklered*.

3.10.2.4. Safety Requirements Within Floor Areas

(1) Except as provided in Sentences (2) to (12), the requirements in Section 3.3. shall apply.

(2) A corridor need not be constructed as a *public corridor* where the travel distance, measured from inside the rental space to the nearest *exit*, is not more than 15 m provided that the corridor walls

- (a) are of *noncombustible construction*,
- (b) have no openings other than doors and the doors are of solid construction, and
- (c) are continuous from the floor to the underside of the floor above, the ceiling or the roof.

(3) Where the *building* is *sprinklered*, doors in a *public corridor* do not require to be equipped with self-closing devices and latches provided that the travel distance is measured from inside the rental space to the nearest *exit*.

(4) Egress doors from a rental space are not required to swing in the direction of *exit* travel or swing on a vertical axis provided

- (a) the area of the rental space is not more than 50 m², and
- (b) the distance of travel within the rental space is not more than 10 m.

(5) Where egress doors from a rental space open onto a corridor and swing in the direction of *exit* travel, the corridor shall be not less than 1 500 mm wide, and the doors shall be not more than 914 mm wide.

(6) Where egress doors from a rental space open onto a corridor and do not swing in the direction of *exit* travel, the corridor shall be not less than 1 100 mm in width.

(7) Dead end corridors are not permitted.

(8) Corridors shall be provided with

- (a) natural lighting which shall be uniformly distributed and be at least 4% of the corridor area, or
- (b) emergency lighting, conforming to Sentences 3.2.7.4.(1) and (2), which shall provide average levels of illumination not less than 10 lx at floor level.

(9) Not more than two *dwelling units* shall be contained within one of the *buildings* on the property.

(10) *Dwelling units* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 2 h.

(11) A *fire separation* is not required between a *dwelling unit* and an office where the office is not more than 50 m² in area.

(12) The *fire separations* required in Sentence 3.3.1.1.(1) need not be provided between individual rental spaces.

3.10.2.5. Exit Requirements

(1) Except as provided in Sentences (2) and (3), the requirements in Section 3.4. shall apply.

(2) The clear width of an *exit* stair shall be not less than 1 100 mm.

(3) *Exit* doors from rental spaces are not required to swing on a vertical axis provided

- (a) the area of the rental space is not more than 50 m², and

(b) the travel distance within the rental space is not more than 10 m.

3.10.2.6. Service Facilities

(1) Except as provided in Sentence (2), the requirements in Section 3.6. shall apply.

(2) Except where located in and serving only the *dwelling units*, a fuel-fired *appliance* shall be located in a *service room* separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

3.10.2.7. Sanitary Facilities

(1) Except as provided in Sentence (2), the requirements in Subsection 3.7.4. shall apply.

(2) Except as permitted in Sentences 3.7.4.1.(2) and (3), two wash-rooms, each containing a water closet and a lavatory, shall be provided within one of the *buildings* on the property.

3.10.3. Additional Requirements for Buildings Containing more than 1 Storey

3.10.3.1. Application

(1) The requirements in this Subsection apply to all *buildings* except a 1 *storey building* which does not contain a *basement* or *mezzanine*.

3.10.3.2. Spatial Separations

(1) Except as provided in Sentence (2), the requirements in Subsection 3.2.3. shall apply.

(2) The distance between *buildings* shall be not less than 9 m.

3.10.3.3. Fire Alarm Systems

(1) Except as provided in Sentences (2) and (3), the requirements in Subsection 3.2.4. shall apply.

(2) A fire alarm system shall be installed.

(3) Within the *first storey*, manual pull stations are required only in corridors.

3.10.3.4. Provisions for Fire-fighting

(1) Except as provided in Sentences (2) to (4), the requirements in Subsection 3.2.5. shall apply.

(2) Access routes for fire department vehicles shall be provided and shall be not less than 9 m wide.

(3) Hydrants shall be located in the access routes required in Sentence (2) so that

- (a) for a *building* provided with a fire department connection for a standpipe system or a sprinkler system

- (i) a fire department pumper vehicle can be located adjacent to a hydrant, and

- (ii) the unobstructed path of travel for the firefighter from the vehicle to the fire department connection is not more than 45 m, and

- (b) for a *building* which is not *sprinklered*, a fire department pumper vehicle can be located in the access route so that the unobstructed path of travel for the firefighter is not more than

- (i) 45 m from the hydrant to the vehicle, and
- (ii) 45 m from the vehicle to every opening in the *building*.

3.10.3.5. Standpipe Systems

(1) Except as provided in Sentence (2), the requirements in Subsection 3.2.9. shall apply.

(2) Hose stations are not required in the *first storey*.

3.10.4. Additional Requirements for 1 Storey Buildings

3.10.4.1. Application

(1) The requirements in this Subsection apply to 1 *storey buildings* which do not contain a *basement* or *mezzanine*.

3.10.4.2. Building Area

- (1) For the purposes of Subsection 3.2.2., *building area* means
 - (a) the *building area* of each *building*,
 - (b) the total of the *building areas* of all *buildings* as a group, or
 - (c) the total of the *building areas* of any number or group of *buildings*.

3.10.4.3. Spatial Separations

(1) Except as provided in Sentences (2) to (4), the requirements in Subsection 3.2.3. shall apply.

(2) Where the *building area* conforms to Clause 3.10.4.2.(1)(b), the *limiting distance* requirements shall not apply between individual *buildings*.

- (3) Where the *building area* conforms to Clause 3.10.4.2.(1)(c)
 - (a) the *limiting distance* requirements shall apply between each group of *buildings*, but not between individual *buildings* within a group, and
 - (b) the distance between each group of *buildings* shall be not less than 9 m.

(4) The distance between individual *buildings* within a group shall be not less than 6 m.

3.10.4.4. Fire Alarm Systems

(1) Except as provided in Sentence (2), the requirements in Subsection 3.2.4. shall not apply.

(2) The requirements for *smoke alarms* in Article 3.2.4.21. shall apply to a *dwelling unit*.

3.10.4.5. Provisions for Fire-fighting

(1) Except as provided in Sentences (2) to (7), the requirements in Subsection 3.2.5. shall not apply.

(2) Access routes for fire department vehicles shall be provided and shall be not less than 9 m wide.

(3) Hydrants shall be located in the access routes required in Sentence (2) so that the locations conform to Sentence 3.10.3.4.(3).

(4) The access routes required in Sentence (2) shall conform to the requirements in Sentence 3.2.5.6.(1).

(5) An adequate water supply for fire-fighting shall be provided for every *building*.

(6) Where a sprinkler system is installed, the system shall conform to the requirements in Articles 3.2.5.13., 3.2.5.16. and 3.2.5.18.

(7) Where *combustible* sprinkler piping is installed, it shall conform to the requirements in Article 3.2.5.14.

Section 3.11. Public Pools

3.11.1. General

3.11.1.1. Application

(1) This Regulation applies to every *public pool*.

(2) This Section applies to the design and construction of site assembled and manufactured pools that are intended for use as *public pools*.

(3) Where material alterations to a *public pool* or the equipment installed in a *public pool* affect the bottom slope, the water volume or the capacity of the *recirculation system*, the adversely affected portions shall comply with the requirements of this Code.

(4) Where material alterations or repairs concern any pool fitting passing water and/or air in or out of the pool tank, the affected fitting shall comply with Sentences 3.11.8.1.(14) to (20).

3.11.2. Designations of Public Pools

3.11.2.1. Pool Designations

(1) Every *public pool* shall be designated as being either a Class A pool or a Class B pool in accordance with Sentence (2) or (3).

(2) A Class A pool is a *public pool* to which the general public is admitted or that is

- (a) operated in conjunction with or as a part of a program of an educational, instructional, physical fitness or athletic institution or association, supported in whole or in part by public funds or public subscription, or
- (b) operated on the premises of a *recreational camp*, for use by campers and their visitors and camp personnel.

(3) A Class B pool is a *public pool* that is

- (a) operated in conjunction with six or more *dwelling units, suites, single family residences*, or any combination thereof for the use of occupants or residents and their visitors,
- (b) operated in conjunction with a mobile home park for the use of residents or occupants and their visitors,
- (c) operated on the premises of a *hotel* for the use of its guests and their visitors,
- (d) operated on the premises of a *campground* for the use of its tenants and their visitors,
- (e) operated in conjunction with a club for the use of its members and their visitors, or
- (f) operated in conjunction with an establishment or institution classified in Table 3.1.2.1. as,

- (i) Group B, Division 1, *major occupancy*, or
- (ii) Group B, Division 2 or 3, *major occupancy*, for the use of residents or occupants and their visitors.

3.11.3. Pool and Pool Deck Design and Construction Requirements for all Class A and Class B Pools

3.11.3.1. Construction Requirements

(1) Except as otherwise required in Subsections 3.11.4., 3.11.5., 3.11.6., and 3.11.7. or otherwise exempted in Sentences (2) and (3), Class A pools and Class B pools shall be designed and constructed to comply with Sentences (2) to (25).

(2) Where a Class B pool is constructed for use solely in conjunction with a club, child care facility, *day camp* or establishment or institution for the care of persons who are infirm, aged or in custodial care, the pool shall be exempt from the requirements of Clause (9)(a) and Sentences (13) and (14).

(3) Where a Class B pool is constructed for use solely in conjunction with an establishment or institution for the treatment of persons who are disabled or ill, the pool shall be exempt from the requirements of Sentences (6) and (7), Clause (9)(a) and Sentences (13) and (14).

(4) A *public pool* shall be constructed to have a water depth of not less than 750 mm except for

- (a) a *modified pool*,
- (b) a *wave action pool*,
- (c) a pool for therapeutic use,
- (d) a beach entry ramp, and
- (e) a pool described in Sentence 3.11.5.1.(1).

(5) The beach entry ramp permitted in Clause 4(d) shall be protected with permanent barriers between 900 mm to 1 200 mm along the pool deck to prevent entry into the pool until the minimum water pool depth is 750 mm.

(6) Except for a *modified pool*, a *wave action pool* and a pool used exclusively for scuba diving, the slope of the bottom of any portion of a *public pool* shall not exceed

- (a) 8% where the water depth is 1 350 mm or less,
- (b) 33% where the water depth is more than 1 350 mm and less than 2 000 mm, and
- (c) 50% where the water depth is 2 000 mm or more.

(7) Except for a *modified pool* and *wave action pool*, where the slope of any portion of the bottom of a *public pool* is more than 8%, the walls of the pool shall be equipped with recessed fittings to which a safety line supported by buoys can be attached across the surface of the water and the recessed fittings shall be installed at a horizontal distance of at least 300 mm measured from the vertical projection of the top of the slope in the direction of the shallow end of the pool.

(8) Except for a *modified pool*, *wave action pool* and a pool described in Sentence 3.11.5.1.(1), the side and end walls of a *public pool* shall be vertical from the top of the walls to within 150 mm of the bottom except at steps or recessed ladders or in water depths of 1 350 mm or more.

(9) Except for a *modified pool* and *wave action pool* and except as provided in Sentence (11), a *public pool* shall be surrounded by a hard-surfaced *pool deck* that shall

- (a) except for a pool described in Sentence 3.11.5.1.(1), be not less than 1 800 mm wide and provide at least 900 mm width of clear passage,
 - (i) behind any *diving board* and its supporting structure, and
 - (ii) between any column piercing the deck and the edge of the pool or between the column and outer perimeter of the *pool deck*,
- (b) in the case of an *outdoor pool*, be sloped away from the pool to waste drains or to adjacent lower ground at a slope of between 2% and 4%, and
- (c) in the case of an indoor pool, be impervious and sloped away from the pool to waste drains at a slope of between 1% and 4%.

(10) Where a *public pool* is constructed with a ledge, the ledge shall

- (a) be placed only in parts of the pool where the water depth is 1 350 mm or more,
- (b) be not more than 200 mm wide,
- (c) be at least 1 000 mm below the water surface,
- (d) where located on the side of the pool, be gradually tapered towards the shallow end of the pool in such a manner as to prevent a harmful obstruction, and
- (e) have a band of contrasting colour along the entire juncture of the side and top of the ledge.

(11) Notwithstanding Sentences (12) to (16), where a *public pool* is constructed on any level surface with walls rising above that surface and has a constant water depth not exceeding 1 100 mm and a water surface area not exceeding 100 m², the *pool deck* may be an elevated platform surrounding the pool if it has

- (a) an unobstructed width of not less than 900 mm,
- (b) a height of at least 75 mm above grade or pavement elevation,
- (c) 6 mm wide openings for drainage, and
- (d) a non-slip surface that is capable of being kept clean and disinfected.

(12) Except for a *modified pool* and *wave action pool*, where a *pool deck* projects over the water surface, the projection shall not exceed 50 mm.

(13) Except for a *modified pool* and *wave action pool*, the *pool deck* shall be separated from any adjacent spectator area or gallery and from any spectator access to such area or gallery by a gate or other barrier.

(14) Except for a *modified pool* and *wave action pool*, the perimeter of the *pool deck* shall be clearly delineated by painted lines or other means where any area contiguous to the *pool deck* may be confused with the deck.

(15) Perimeter drainage shall be provided where necessary to prevent surface run-off from draining onto the *pool deck*.

(16) Except for a *modified pool*, one or more hose bibs shall be installed near the perimeter of the *pool deck* in locations convenient for flushing the *pool deck*.

(17) Except for a *modified pool* and *wave action pool*, where access to the pool enclosure is over any surface that is not subject to regular cleaning and sanitizing, a foot spray to wash feet by means of a spray running freely to waste shall be provided at each such access.

(18) Except for a *modified pool* and *wave action pool*, at least one ladder or set of steps shall be provided in both the deep and shallow areas of a *public pool* for entry into and egress from the pool water.

(19) The *pool deck*, the submerged parts of a *public pool*, the walls or partitions adjacent to a *pool deck* and the pavement or floor adjacent to a *pool deck* shall have surfaces that permit thorough cleaning.

(20) Except for markings for safety or competition purposes, submerged surfaces in *public pools* shall be finished white or light in colour.

(21) Except in a *modified pool*, a black disc 150 mm in diameter on a white background shall be affixed to the bottom of a *public pool* within the area of its greatest depth.

(22) A *public pool* shall be equipped with lockable doors or other barriers capable of preventing public access to the *pool deck*.

(23) Except for a *modified pool*, *wave action pool* or a pool installed at a *recreational camp*, a Class A pool shall be provided with

- (a) where the water surface area is greater than 150 m² but not greater than 230 m², at least one lifeguard control station, and
- (b) where the water surface area is greater than 230 m², at least two lifeguard control stations.

(24) Except for a *modified pool*, every *public pool* shall display on the deck clearly marked figures, not less than 100 mm high, that set out

- (a) the water depths indicating the deep points, the breaks between gentle and steep bottom slopes and the shallow points,
- (b) the words **SHALLOW AREA** at one or more appropriate locations, and
- (c) where the water depth exceeds 2 500 mm, the words **DEEP AREA** at one or more appropriate locations.

(25) Except for a *modified pool* and a pool to which Sentence 3.11.5.1.(4) applies, every *public pool* having a maximum water depth of 2 500 mm or less shall display a warning notice posted in a location clearly visible to divers on which is printed in letters at least 150 mm high, the words **CAUTION -- AVOID DEEP DIVES** or **SHALLOW WATER -- NO DIVING**.

3.11.4. Public Pools Equipped with Diving Boards or Diving Platforms

3.11.4.1. Diving Boards or Platforms

(1) No *diving board* or *diving platform* shall be installed in a *public pool* unless the requirements of Sentences (5) to (17) are met but the requirements for a *diving platform* do not apply to a *starting platform*.

(2) No *diving board* or *diving platform* shall be installed in a *modified pool* or a *wave action pool*.

(3) Where a *public pool* is equipped with a *diving board* or a *diving platform*, the board or platform shall have a non-slip surface.

(4) Where a *diving board* or a *diving platform* in a *public pool* is more than 600 mm above the water surface, the board or platform shall be equipped with one or more adjacent handrails.

(5) Where a *public pool* is equipped with a *diving board* or a *diving platform* not more than 3 m in height above the water surface, the pool shall be designed and constructed in conformance with Sentences (6) to (15).

(6) The depth of water in the area directly below a horizontal semi-circle in front of a *diving board* or *diving platform* having a radius of 3 m measured from any point on the front end of the board or platform shall not be less than

- (a) 2 750 mm, where a board is 600 mm or less in height above the water surface,
- (b) 3 m, where a board or platform is greater than 600 mm but not more than 1 000 mm in height above the water surface, and
- (c) 3.65 m, where a board or platform is greater than 1 000 mm but not more than 3 m in height above the water surface.

(7) Except as permitted in Sentence (8), the water depth in a *public pool* shall be at least 1 350 mm at the horizontal arc having a radius of 9 m measured from any point on the front end of the *diving board* or *diving platform* and intersecting the vertical projections of the walls of the pool.

(8) Where a Class B pool is equipped with a *diving board* 600 mm or less in height above the water

- (a) the water depth shall be at least 1 350 mm at the horizontal arc having a radius of 7.5 m measured from any point on the front end of the *diving board*, and
- (b) a warning notice, on which is printed in letters at least 150 mm high, the words **DANGER -- AVOID DEEP OR LONG DIVES**, shall be posted in a location clearly visible to divers.

(9) The slope of the bottom of a *public pool* having a *diving board* or *diving platform* shall not change by more than 17% where the water depth is less than the applicable depth set out in Sentence (6) and greater than the depth set out in Sentence (7) or (8), as applicable.

(10) The horizontal distance between the vertical projection of the centre line of a *diving board* or *diving platform* and the vertical projection of the centre line of another board or platform shall be at least 2 750 mm.

(11) The horizontal distance between the centre line of a *diving board* or *diving platform* and the vertical projection of the closest side or any ledge on the closest side of a *public pool* shall be at least

- (a) 3 m, where a *diving board* or *diving platform* is 1 000 mm or less in height above the water surface, and
- (b) 3.6 m, where a *diving board* or *diving platform* is greater than 1 000 mm in height above the water surface.

(12) A *diving board* or a *diving platform* 600 mm or less in height above the water surface shall project over the water a horizontal distance of at least 900 mm from the vertical projection of a pool wall under it.

(13) A *diving board* greater than 600 mm in height above the water surface shall project over the water a horizontal distance of at least 1 500 mm from the vertical projection of the pool wall under it.

(14) A *diving platform* greater than 600 mm in height above the water surface shall project a horizontal distance of at least 1 200 mm from the vertical projection of the pool wall under it.

(15) The space above a *diving board* or *diving platform* shall be unobstructed and shall consist of at least

- (a) a space having a width of 2 500 mm on each side of the centre line of the board or platform, a length equal to the sum of the horizontal distance the board or platform projects over the water plus 3 m, and a height of

- (i) 3.65 m above a *diving board* 3.65 m or less in length,
- (ii) 5 m above a *diving board* greater than 3.65 m in length, or
- (iii) 3 m above a *diving platform*, and

- (b) the space below the planes originating from the front and sides of the uppermost horizontal plane of the space determined under Clause (a) and sloping downwards at 30° from the horizontal.

(16) A *diving board* or *diving platform* greater in height than 3 m above the water surface shall be equipped with a gate, barrier or other device capable of preventing access thereto.

(17) Where a *public pool* is to be equipped with *diving boards* or *diving platforms* greater than 3 m in height above the water surface, the design of the *diving boards* or *diving platforms* and the corresponding water depths and clearances shall be in accordance with the "Rules and Laws Governing Swimming, Diving, Water Polo and Synchronized Swimming" published in 1984 by FINA.

3.11.5. Ramps into Public Pools in Group B, Division 2 or 3, Major Occupancies

3.11.5.1. Ramps into Pools

(1) Notwithstanding Sentences 3.11.3.1.(4) and (7) and Clause 3.11.3.1.(9)(a), where a *public pool* is constructed in a *building* containing a Group B, Division 2 or 3, *major occupancy*, and has a water depth not exceeding 1 500 mm and a water surface area not exceeding 100 m², the *pool deck* contiguous to not more than 50 per cent of the total perimeter of the pool may be replaced by one or more ramps that will permit a bather seated in a wheelchair to enter the water with or without the wheelchair.

(2) Where a *public pool* has one or more ramps as described in Sentence (1), the pool shall be designed and constructed to comply with Sentences (3) to (8).

(3) A ramp referred to in Sentence (1) shall have

- (a) a handrail having a height between 800 mm and 900 mm along each side of the ramp and running parallel to the slope of the ramp,
- (b) a width of at least 1 100 mm,
- (c) a curb or other means to prevent a wheelchair from falling off the side of the ramp,
- (d) surface finishes capable of being kept clean, sanitary and free from slipperiness, and
- (e) a landing at the bottom at least 1 500 mm in length and the same width as the ramp.

(4) Notwithstanding Sentence 3.11.3.1.(25), a warning notice, on which is printed in letters at least 150 mm high, the words **CAUTION -- NO DIVING**, shall be posted conspicuously on each wall or fence line enclosing the pool.

(5) There shall be a curb along the perimeter of the pool except at steps, ladders and ramp entrances.

(6) The curb shall have

- (a) a height of 50 mm,
- (b) rounded edges,
- (c) a coved base, and
- (d) a raised nosing at the top to serve as a fingerhold for a bather in the water.

(7) Where a ramp that is not submerged is adjacent to the pool wall and is used for access to the water, the pool shall be constructed so that

- (a) the landing at the bottom of the ramp is at least 450 mm but not more than 550 mm below the top of the wall separating the ramp from the pool,
- (b) the landing is equipped with a floor drain at its lowest point,
- (c) the top of the wall between the pool and the ramp is at least 250 mm and not more than 300 mm in width,
- (d) the *pool deck* is capable of accommodating a movable barrier separating the deck from the ramp,
- (e) the water depth at the landing shall be accurately and clearly marked at the landing in figures at least 100 mm high on the top of the wall separating the pool from the ramp, and
- (f) the ramp shall have a slope not exceeding 8%.

(8) Where a submerged ramp is adjacent to the pool wall and is used for access to the water, the pool shall be constructed so that

- (a) the water depth at the bottom of the ramp is at least 600 mm and not greater than 900 mm,
- (b) a hard-surfaced area that is at least 750 mm wide is contiguous to the entire length of the part of the submerged ramp that pierces any part of the deck,
- (c) the area described in Clause (b) is capable of accommodating a movable barrier that separates the area from the deck,
- (d) the finishes in submerged portions of the ramps and curbs are different in colour or shade from each other and from that of the pool walls and bottom, and
- (e) the submerged ramp has a slope not exceeding 11%.

3.11.6. Modified Pools

3.11.6.1. Construction Requirements

(1) A *modified pool* is exempt from Sentences (4) to (9), (12), (13), (14), (16), (17), (18), (21), (23), (24) and (25) of Article 3.11.3.1. and Sentence 3.11.8.1.(12).

(2) A *modified pool* shall be designed and constructed to comply with Sentences (3) to (9).

(3) A *modified pool* and its *pool deck* shall be constructed of hard-surfaced material that permits thorough cleaning.

(4) The slope of the bottom of any portion of a *modified pool* shall not exceed 8%.

(5) The depth of the water in any portion of a *modified pool* shall not be more than 1 800 mm.

(6) A *modified pool* shall be surrounded on all sides by a hard-surfaced *pool deck* that shall

- (a) be at least 3 m wide,
- (b) have a continuous crest surrounding the pool at least 100 mm above the pool water surface, and
- (c) be sloped to shed water from the crest to the outer perimeter of the *pool deck*.

(7) A *modified pool* shall be provided with two or more drain fittings covered with protective grilles with openings having an aggregate area of at least 10 times the internal cross-sectional area of the outlet pipe or pipes connected to the *recirculation system* that is capable of completely draining the pool.

(8) Provision shall be made for lifeguard control stations adjacent to the edge of the water at intervals of not more than 60 m.

(9) The bottom of a *modified pool* shall be marked with continuous black contour lines

- (a) 150 mm wide located where the water depth is 600 mm, and
- (b) 300 mm wide located where the water depth is 1 200 mm.

3.11.7. Wave Action Pools

3.11.7.1. Construction Requirements

(1) A *wave action pool* is exempt from Sentences (4) to (9), (12) to (14), (17), (18) and (23) of Article 3.11.3.1. and Sentence 3.11.8.1.(12).

(2) A *wave action pool* shall be designed and constructed to comply with Sentences (3) to (11).

(3) The slope of the bottom of any portion of a *wave action pool*

- (a) shall not exceed 8% where the still water depth is less than 1 000 mm, and
- (b) shall not exceed 11% where the still water depth is 1 000 mm or more.

(4) The walls of a *wave action pool* shall be vertical from the water surface to within 150 mm of the bottom.

(5) There shall be a hard-surfaced *pool deck* at least 3 m wide immediately adjacent to the pool wall at the shallow end of the pool and at least 1 500 mm wide immediately adjacent to all walls of the pool.

(6) Provision shall be made for two or more lifeguard control stations on each side of the *pool deck* adjacent to which the still water depth exceeds 1 000 mm.

(7) Sets of steps or ladders recessed into pool side walls and having continuous vertical grab bars on each side thereof shall be located at intervals of not more than 7.5 m along portions of the pool where the still water depth exceeds 1 000 mm, except that no steps or ladders shall be located within 3 m of the corners at the deep end of the pool.

(8) Except at recessed steps or ladders, the *pool deck* along each side of a *wave action pool* adjacent to which the water depth is 2 300 mm or less shall be equipped with a barrier supported by posts or a wall that

- (a) is 1 000 mm in height,
- (b) is located 1 000 mm or less from the side of the pool, and

- (c) has warning notices affixed thereto at intervals not exceeding 7.5 m signifying clearly that jumping and diving are prohibited along the sides of the pool.

(9) Skimming devices shall be designed and suitably located to remove surface film when no waves are induced in a *wave action pool*.

(10) A system capable of deactivating the wave-making equipment shall be installed with readily accessible push buttons located on the *pool deck* not more than 30 m apart, adjacent to each side and the deep end of the pool.

(11) A *wave action pool* shall be equipped with a first-aid room located within 50 m of the pool.

3.11.8. Recirculation for Public Pools

3.11.8.1. Recirculation Systems

(1) Every *public pool* shall be equipped with a *recirculation system*.

(2) For the purposes of this Subsection, the water in a *public pool* and its *recirculation system* shall be deemed not to be *potable water*.

(3) The water in a *public pool* and its *recirculation system* shall be separated from the *potable water supply* and from the sewer or drainage system into which it drains by air gaps or other devices that prevent

- (a) the water in the pool or its *recirculation system* from flowing back into the *potable water supply*, and
- (b) the water in the sewer or drainage system from flowing back into the pool or its *recirculation system*.

(4) The *recirculation system* of a *public pool* shall be designed, constructed and equipped to comply with Sentences (5) to (20).

(5) The *recirculation system* of a *public pool* shall be capable of filtering, disinfecting and passing through the pool each day a volume of water of at least

- (a) in the case of a Class A pool, other than a *modified pool* or a *wave action pool*, six times the total water volume of the pool,
- (b) in the case of a Class B pool, other than a *wave action pool*, four times the total water volume of the pool,
- (c) in the case of a *modified pool*, three times the total water volume of the pool, and
- (d) in the case of a *wave action pool*, six times the total water volume of the pool.

(6) A *recirculation system* shall be equipped with a flow meter registering the rate of water flow.

(7) All pools shall be provided with automatic *make-up water* devices and provided with water meters to register the volume of all *make-up water* added to a *public pool* or its *recirculation system*.

(8) Equipment shall be installed to continuously disinfect the water in a *public pool* by means of

- (a) a chlorination or hypochlorination system provided with a chemical controller for regulating the dosage of chlorine and capable of providing not less than
 - (i) in the case of an *outdoor pool*, other than a *wave action pool*, 300 g of chlorine per day per 10 000 L of total pool capacity,
 - (ii) in the case of an *indoor pool*, other than a *wave action pool*, 200 g of chlorine per day per 10 000 L of total pool capacity,

(iii) in the case of an outdoor *wave action pool*, 1 200 g of chlorine per day per 10 000 L of total pool capacity, and

(iv) in the case of an indoor *wave action pool*, 800 g of chlorine per day per 10 000 L of total pool capacity, or

(b) a bromination system capable of maintaining in the pool water a total bromine residual of 3 mg/L.

(9) Gas chlorination equipment for a *public pool* shall contain a mechanism whereby the chlorine feed shall automatically terminate whenever the *recirculation system* ceases to supply *clean water* to the pool.

(10) All exposed *potable* water piping and chlorine piping within a *public pool* water treatment *service room* shall be colour coded by means of

(a) painting the entire outer surface of the piping, or

(b) coloured bands at least 25 mm in width that are spaced along the piping at intervals of not more than 1 200 mm.

(11) The colour coding referred to in Sentence (10) shall be yellow for chlorine and green for *potable* water.

(12) Except for a *modified pool* and *wave action pool*, a *public pool* shall be equipped with overflow gutters or surface skimmers connected to the *recirculation system* that are capable of removing surface film from the surface of the water and withdrawing each day and discharging to the waste drains up to 15 per cent of the total volume of pool water.

(13) A *public pool* shall be equipped with *clean water* inlets arranged in conjunction with surface skimmers or overflow gutters to provide uniform distribution and circulation of *clean water*.

(14) Except as permitted in Sentence (19), all fittings at or below the water surface that allow water and/or air to be passed to or from the *public pool* shall

(a) have a maximum opening of 7 mm in one direction, and

(b) be securely held in place by corrosion resistance fastening that require a tool for removal and are galvanically compatible with the fittings and grilles or covers.

(15) Except as provided in Sentence 3.11.6.1.(7) for a *modified pool*, all fittings below the water surface that provide suction or gravity flow in a *public pool* shall

(a) be provided with a minimum of two suction or gravity outlets interconnected to a full size manifold, and

(b) be separated by a clear distance of not less than 1 200 mm.

(16) Except as provided in Sentence 3.11.6.1.(7) for a *modified pool*, water in all *public pools* shall be capable of being emptied through the pool drains in twelve hours or less.

(17) Except as provided in Sentence 3.11.6.1.(7) for a *modified pool*, openings in suction or gravity fittings shall

(a) be such that the flow of water does not exceed 0.45 m/s and the velocity is calculated assuming all possible sources of suction flow are present at one time, and

(b) be such that every suction fitting located within 1 000 mm of the water surface, except for skimmers and gutter fittings, contain openings with a minimum aggregate area of 0.2 m².

(18) Except for skimmers and gutters, all submerged suction and gravity fittings shall be clearly and permanently marked with a 50 mm wide band in a contrasting colour.

(19) Fittings returning water and/or air to the pool tank that are located within 300 mm of the water surface are permitted to have openings with one dimension more than 7 mm but shall contain no openings more than 25 mm in diameter.

(20) Submerged skimmer equalizer fittings and vacuum fittings are not permitted in *public pools*.

3.11.9. Dressing Rooms, Locker Facilities, and Plumbing Facilities for all Public Pools

3.11.9.1. Dressing Rooms and Sanitary Facilities

(1) Except as otherwise permitted in Sentences (2) and (3), every *public pool* shall be equipped with dressing rooms, locker rooms, shower heads, water closets, urinals, lavatories and drinking fountains which shall be designed, constructed and equipped to comply with Sentences (4) to (14).

(2) Where a Class A pool is installed on the premises of a *recreational camp*, dressing rooms, locker rooms, shower heads, water closets, urinals, lavatories and drinking fountains are not required if

(a) dressing, water closet and shower facilities are conveniently available for bathers elsewhere on the premises, and

(b) foot sprays are provided in accordance with Sentence 3.11.3.1.(17).

(3) Where a Class B pool is installed, dressing rooms, locker rooms, shower heads, lavatories, water closets, drinking fountains and urinals are not required if

(a) dressing, water closet and shower facilities are conveniently available elsewhere on the premises for bathers when the pool is open for use, and

(b) foot sprays are provided in accordance with Sentence 3.11.3.1.(17).

(4) The minimum number of water closets, urinals and lavatories shall be determined from Article 3.7.4.3. and Table 3.7.4.3.C. for an *occupant load* based on

(a) the formula in Sentence 3.1.16.3.(1) for all *public pools*, except a *wave action pool*, or

(b) the formula in Sentence 3.1.16.3.(2) for a *wave action pool*.

(5) A minimum of one shower head shall be provided for every 40 bathers.

(6) Where dressing and locker rooms, water closets and urinals are provided in conjunction with a *public pool*, they shall be located in such a manner that bathers, after using them, shall pass through or by a shower area to reach the *pool deck*.

(7) All shower heads shall be supplied with *potable* water at a pressure of at least 140 kPa.

(8) The shower water system shall have one or more tempering devices capable of being adjusted to ensure that water supplied to shower heads does not exceed 40°C.

(9) Floors in washrooms, shower areas and passageways used by bathers shall slope to waste drains at not less than 1% and shall be of hard surfaced materials that do not become slippery when wet.

(10) Joints between floors and walls shall be coved in areas described in Sentence (9) and in dressing and locker rooms.

(11) Hose bibs shall be provided in safe locations convenient for flushing down the walls and floors in washrooms, shower areas and passageways used by bathers.

(12) *Partitions* or walls shall be provided to ensure privacy of dressing rooms, washrooms and shower areas.

(13) The bottom of interior *partitions* in dressing rooms and washrooms shall be between 250 mm and 350 mm above the floor.

(14) Dressing and locker room floors shall have non-slip surfaces that permit convenient and thorough cleaning and disinfecting.

3.11.10. Emergency Provisions for All Public Pools

3.11.10.1. Lighting and Emergency Provisions

(1) Except as provided in Sentences (2) and (3), rooms and spaces used by the public in conjunction with a *public pool* shall be capable of illumination to levels in compliance with Subsection 3.2.7.

(2) Dressing rooms, locker rooms, shower rooms, washrooms and passageways shall have an illumination level of at least 200 lx at floor level.

(3) An *indoor pool* or an *outdoor pool* that is intended to be open for use after sundown shall be equipped with a lighting system

(a) that will maintain at any point on the *pool deck* and on the pool water surface an illumination level of at least,

(i) 200 lx in the case of an *indoor pool*, and

(ii) 100 lx in the case of an *outdoor pool*, and

(b) that makes the underwater areas of the pool clearly visible from any point on the *pool deck*.

(4) An *outdoor pool* that is intended to be open for use after sundown and an *indoor pool* shall be equipped with an independent emergency lighting system that automatically operates whenever the normal electrical power supply to a *public pool* lighting system fails.

(5) The independent emergency lighting system required in Sentence (4) shall be capable of illuminating the *pool deck*, washroom, shower, locker areas, pool water surface and all means of egress to a level of at least 10 lx.

(6) An emergency power supply for the emergency lighting system required in Sentence (4) shall comply with Sentences 3.2.7.4.(1) and 3.2.7.7.(1) and Article 3.2.7.5.

(7) An emergency telephone directly connected to an emergency service or to the local telephone utility shall be installed adjacent to the *pool deck* of every Class A pool.

(8) A telephone accessible for emergency use shall be installed for every Class B pool within 30 m of the pool.

(9) Every *wave action pool* shall have a public address system which shall be clearly audible in all portions of the pool.

(10) Every *wave action pool* shall have a communication system for the use of persons engaged in supervision or operation of the pool which shall be interconnected with each lifeguard control station, the first-aid room and the bather admission control centre.

(11) The public address system and the communication system described in Sentences (9) and (10) shall be interconnected.

(12) All recirculating pumps used in a *public pool* shall be capable of being deactivated by an emergency stop button clearly labelled and located at

(a) a Class A pool beside the telephone that is required in Sentence (7), and

(b) a Class B pool on the deck area.

(13) The emergency stop button in Sentence (12) shall when used activate an audible and a visual signal located by the emergency stop.

(14) An emergency sign containing the words **IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY STOP BUTTON AND USE EMERGENCY PHONE, AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE** shall be in letters at least 25 mm high with a 5 mm stroke and posted above the emergency stop button.

3.11.11. Service Rooms and Storage for all Public Pools

3.11.11.1. Service Rooms and Storage Facilities

(1) In addition to the requirements of this Subsection, *service rooms* shall comply with the requirements of Sentences 3.6.2.1.(4), 3.6.2.1.(5) and 3.6.2.2.(5) and Articles 3.5.3.3. and 3.6.2.3.

(2) Where compressed chlorine gas is used as a pool water disinfectant, the cylinders or containers of gas shall be located in a *service room* that

(a) except as provided in Sentences 3.1.9.4.(3) to (8), is separated from the remainder of the *building* by a 1 h *fire separation* that is substantially gas tight,

(b) is designed for the sole purpose of containing all installed pressurized chlorine gas apparatus and piping and storing all chlorine gas containers or chlorine gas cylinders that are individually secured against toppling,

(c) is located at or above ground level,

(d) is provided with an *exit* door opening to the outdoors,

(e) has screened openings to the outdoors with at least one opening located within 150 mm from the floor and at least one opening located within 150 mm from the ceiling, each opening being 2% of the area of the floor,

(f) is equipped with emergency mechanical ventilation capable of producing at least 30 air changes per hour, taking suction at a maximum of 900 mm above the floor level and discharging at least 2 500 mm above ground level directly to the outdoors, and

(g) contains a platform weigh scale of at least 135 kg capacity for each chlorine cylinder in use.

(3) Storage facilities shall be provided for the safe storage of all chemicals required in pool operations.

(4) The storage facilities shall be ventilated and shall be equipped with a water hose connection and a floor drain.

(5) *Service rooms* and storage facilities, including rooms and facilities that contain electrical or mechanical equipment or chemicals or chemical feeders, shall be equipped with a secure locking device.

Section 3.12. Rapid Transit Stations

3.12.1. Scope and Definitions

3.12.1.1. Scope

(1) Except as provided in this Section the requirements in the Code apply to *rapid transit stations*.

3.12.1.2. Definitions**(1) In this Section**

Ancillary space means the rooms or spaces in the station used only by the transit agency to house or contain operating, maintenance or support equipment and functions, but does not include booths and kiosks used by the transit agency or *service rooms*.

Central supervising station means the operations centre where the transit agency controls and co-ordinates the system-wide movement of passengers and vehicles and from which communication is maintained with supervisory and operating personnel of the transit agency and with participating agencies when required.

Crush load means the total of the seating capacity and the standing capacity of a car where

- a) the seating capacity is the number of seats in a car, and
- b) the standing capacity is 0.2 m² per person for the standing area which is measured 300 mm in front of the seats.

Egress capacity means the number of people able to travel from or through a type of egress facility in a specified period of time.

Entraining load means the number of passengers boarding the train at a station.

Fare-paid area means that portion of a *rapid transit station* to which access is gained by a pass or by paying a fare.

Fare-paid area control means the point where passengers enter or leave the *fare-paid area*.

Link load means the number of passengers on board the train(s) travelling between two stations.

Maximum calculated train load means the *crush load* per car multiplied by the maximum number of cars per train in the peak period.

Peak direction means, for each route, the direction of train travel having the largest passenger flow volume based on the sum of the incoming *link load* plus the *entraining load* per peak hour.

Protected route means that portion of a *means of egress* which starts at the point where passengers would not be vulnerable to exposure from a train fire and which leads to the exterior of the station or through an *exit* to an adjacent *building*.

Public area means the public circulation areas in a *rapid transit station* providing pedestrian access to and from trains.

Rapid transit station means a *building* or part of a *building* used for the purpose of loading and unloading passengers of a *rapid transit system* but does not include open air shelters at street level.

Rapid transit system means an electrified transportation system, utilizing guidance methods involving positive mechanical contact with the fixed way operating on a right-of-way for the mass movement of passengers.

3.12.2. Construction Requirements**3.12.2.1. Requirements for Stations**

(1) Except as provided in this Subsection, the requirements in Subsections 3.2.1. and 3.2.2. do not apply to a *rapid transit station*.

(2) The requirements in Sentence (3) shall apply to

- (a) a *rapid transit station* erected entirely below the adjoining finished ground level, and
- (b) the underground portion of a *rapid transit station*.

(3) Except as permitted in Sentence (4), an underground station or an underground portion of a station in Sentence (2) shall be of *noncombustible construction*, and

- (a) floor assemblies shall be *fire separations* having a *fire-resistance* rating not less than 2 h,
- (b) roof assemblies below ground level
 - (i) shall have a *fire-resistance* rating not less than 2 h, or
 - (ii) a *fire-resistance* rating is not required where steel tunnel liners are left in place to form part of the assembly and the tunnel liners are in direct contact with *soil*, and
- (c) all *loadbearing* walls, columns and arches shall have a *fire-resistance* rating not less than that required for the supported assembly.

(4) An interior stair extending to street level is permitted to be protected by a *combustible* roof.

(5) Where a *rapid transit station* is erected above and below the adjoining finished ground level, the above ground portion of the station shall be of *noncombustible construction* and shall conform to the requirements in Sentence (10).

(6) Where a *rapid transit station* is erected entirely above the adjoining finished ground level and is a stand-alone *building*, the station shall be of *noncombustible construction* and shall conform to the requirements in Sentence (11).

(7) Openings for stairways and escalators used by passengers are permitted to penetrate the *fire separations* required in Sentences (2) to (6).

(8) Elevator shafts are permitted to penetrate the *fire separations* required in Sentences (2) to (6) provided they are enclosed by

- (a) a *fire separation* having a *fire-resistance* rating not less than 1 h, or
- (b) wired glass assemblies conforming to the Supplementary Guidelines.

(9) Openings for other than stairways, escalators or elevators are permitted to penetrate the *fire separations* required in Sentences (2) to (6) provided the openings are protected by a *closure* having a *fire-protection* rating not less than 45 min.

(10) The *building* shall be of *noncombustible construction*, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance* rating not less than 2 h,
- (b) *mezzanines* shall have a *fire-resistance* rating not less than 1 h,
- (c) roof assemblies shall have a *fire-resistance* rating not less than 1 h, and
- (d) all *loadbearing* walls, columns and arches shall have a *fire-resistance* rating not less than that required for the supported assembly.

(11) Except as provided in Sentence (12), the *building* shall be of *noncombustible construction*, and

- (a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
- (b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,
- (c) roof assemblies shall have a *fire-resistance rating* not less than 1 h, and
- (d) all *loadbearing walls*, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(12) A *building* classified as Group A, Division 2 *occupancy* that is not more than 1 *storey* in *building height*, and in which the *building area* is not more than 3 200 m² if not *sprinklered*, or 6 400 m² if *sprinklered*, is permitted to be constructed with a roof of *heavy timber construction* and have columns of *heavy timber construction*.

3.12.3. Safety Requirements Within Stations

3.12.3.1. Application

(1) Except as provided in this Subsection and Subsection 3.12.4., the requirements in Subsections 3.3.1. and 3.6.2. apply to a *rapid transit station*.

(2) A door in a *fire separation* is permitted to be equipped with pivot hinges in conformance with Table 2-8A of NFPA 80, "Fire Doors and Windows".

(3) The requirements in Subsection 3.4.4. for fire separation of *exits* do not apply in a *rapid transit station*.

(4) Except as provided in Sentence (5), the requirements in Sentence 3.4.6.15.(1) for doors to be readily opened from the inside apply to required *exit doors* in a *rapid transit station*.

(5) Where a group of two or more doors serves as a single *exit facility*, only one door in the group is required to comply with Sentence 3.4.6.15.(1).

(6) A door which is required to be readily opened in Sentence (4) or (5) shall have a sign attached to it

- (a) displaying the words **EMERGENCY EXIT** with the letters not less than 25 mm high, and
- (b) visible from the *exit approach*.

3.12.3.2. Booths and Kiosks

(1) Booths and kiosks that are not more than 20 m² in area and are used only by the transit agency for fare collection, dissemination of information or similar *non-mercantile occupancies* shall be of *noncombustible construction* and are not required to be separated from the remainder of the *floor area* by a *fire separation*.

(2) Booths and kiosks that are more than 20 m² in area and are used only by the transit agency for fare collection, dissemination of information or similar *non-mercantile occupancies* shall be

- (a) *sprinklered*, and
- (b) separated from the remainder of the *floor area* by a *fire separation of noncombustible construction* which is not required to have a *fire-resistance rating*.

(3) A door acting as a *closure* in the *fire separation* in Sentence (2) is not required to be equipped with a self-closing device.

3.12.3.3. Service Rooms and Ancillary Spaces

(1) An *ancillary space* in a *rapid transit station* shall be separated from the remainder of the *floor area* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(2) Except as provided in Sentence (3), a door opening from a *service room* onto a *means of egress* in a *rapid transit station* shall be located not less than 5 m from an escalator balustrade and from the top and bottom riser of a flight of stairs used as a *means of egress* from the *rapid transit station*.

(3) The requirements in Sentence (2) do not apply where

- (a) the *service room* is *sprinklered*, or
- (b) there is a vestibule between the *service room* and the *means of egress*.

(4) Where a door from a *service room* opens onto a *means of egress* less than 5 m wide

- (a) the *service room* shall be *sprinklered*, or
- (b) there shall be a vestibule between the *service room* and the *means of egress*.

3.12.3.4. Leased Areas

(1) All leased areas within a *rapid transit station* shall be

- (a) *sprinklered*, and
- (b) separated from the remainder of the *floor area* by a *fire separation of noncombustible construction* which is not required to have a *fire-resistance rating*.

(2) A door acting as a *closure* in the *fire separation* in Clause (1)(b) is not required to be equipped with a self-closing device.

(3) Where leased areas are located on opposite sides of a *means of egress*, the width of the *means of egress* shall not be reduced to less than 5 m.

(4) Except as provided in Sentence (5), where the leased area on any floor level exceeds 15% of the *public area* on that level, the *public area* shall be *sprinklered*.

(5) In a *rapid transit station* which is erected entirely above the adjoining finished ground level and is a stand-alone *building*, where the leased area on any floor level exceeds 20% of the *public area* on that level, the *public area* shall be *sprinklered*.

(6) In determining the leased area in Sentences (4) and (5), it is not necessary to include a leased area which is separated from the *public area* by a *fire separation* having a *fire-resistance rating* not less than

- (a) 2 h where the leased area contains a *mercantile* or *medium hazard industrial occupancy*, or
 - (b) 1 h where the leased area contains any other *occupancy*.
- (7) A leased area is permitted on a platform level provided it is
- (a) located not less than 5 m from the platform edge,
 - (b) located not less than 5 m from an egress facility, and

- (c) not located in a dead end portion of the platform.

3.12.3.5. Vehicle Terminal

(1) Where an enclosed terminal serves vehicles powered by combustible fuels, and the terminal has direct access to a *rapid transit station*

- (a) the terminal shall be *sprinklered*, and
- (b) the terminal shall be separated from the *rapid transit station*
 - (i) by a *fire separation* having a *fire-resistance* rating not less than 1 h, or
 - (ii) by wired glass assemblies conforming to the Supplementary Guidelines with wired glass doors equipped with self-closing devices.

(2) Doors in the *fire separation* or in the wired glass assembly in Clause (1)(b) are not required to have latches where close spaced sprinkler protection is provided on the station side.

3.12.3.6. Access to Adjacent Building

(1) Where an access is provided between a *rapid transit station* and an adjacent *building*, the station and the *building* shall be separated by a *fire separation* having a *fire-resistance* rating not less than 2 h.

(2) The access in Sentence (1) shall be through a vestibule which is separated from the station and from the *building*

- (a) by a *fire separation* having a *fire-resistance* rating not less than 1 h, or
- (b) by wired glass assemblies conforming to the Supplementary Guidelines with wired glass doors equipped with self-closing devices.
- (3) The vestibule doors in Sentence (2) are not required to be equipped with latches.
- (4) Close spaced sprinkler protection shall be provided on each side of all vestibule doors.
- (5) The vestibule shall not contain an *occupancy*.
- (6) Where an access is provided between a *rapid transit station* and an adjacent *building*, and the *building* is regulated by the provisions of Subsection 3.2.6. or 3.2.8., these provisions are not required in the *rapid transit station*.

3.12.3.7. Emergency Lighting

- (1) Emergency lighting shall be provided to average levels not less than 10 lx at floor or tread level in *public areas* in a *rapid transit station*.
- (2) An emergency power supply conforming to Subsection 3.2.7. shall be provided to maintain the emergency lighting required in Sentence (1) for a period of 30 min after a power failure.

3.12.4. Means of Egress

3.12.4.1. Occupant Load

(1) The occupant load for *public areas* within a *rapid transit station* shall be

- (a) determined in conformance with this Subsection, and
- (b) based on peak hour patronage as projected for design of the transit system.

(2) The platform occupant load for each platform in a *rapid transit station* shall be the greater of the a.m. or p.m. peak period loads calculated in accordance with Sentences (3) to (5).

(3) The a.m. and the p.m. peak period occupant loads for each platform shall be based on the simultaneous evacuation of the *entraining load* and the *link load* for that platform.

(4) The *entraining load* for each platform shall be the sum of the *entraining loads* for each track serving that platform and the *entraining load* for each track shall be based on the *entraining load* per train headway multiplied by

- (a) a factor of 1.3 to account for surges, and
- (b) in the *peak direction* for each route, an additional factor of 2 to account for a missed headway.

(5) The *link load* for each platform shall be the sum of the *link loads* for each track serving that platform and, except as provided in Sentence (6), the *link load* for each track shall be based on the *link load* per train headway multiplied by

- (a) a factor of 1.3 to account for surges, and
- (b) in the *peak direction* for each route, an additional factor of 2 to account for a missed headway.

(6) The maximum *link load* at each track shall be the *maximum calculated train load*.

3.12.4.2. General Requirements

(1) Except as provided in Sentence (2), escalators conforming to the requirements of Sentences 3.12.4.5.(3) and 3.12.4.6.(1) shall be acceptable as part of a required *means of egress* in a *rapid transit station*.

(2) Escalators forming part of a required *means of egress* shall not comprise more than one-half of the required *egress capacity* from any one level.

(3) *Horizontal exits* conforming to Sentence (4) may provide all of the required *egress capacity* from a *rapid transit station*.

(4) *Horizontal exits* to any one *building* shall not comprise more than one half of the required *egress capacity* from any area within a *rapid transit station*.

(5) A *protected route* shall be provided with emergency ventilation conforming to Subsection 3.12.7.

(6) In an aboveground unenclosed station, the *protected route* is permitted to begin at the point of leaving the platform.

(7) In an enclosed or underground station, the protection for the *protected route* shall consist of

- (a) a *fire separation* having a *fire-resistance* rating not less than 1 h,
- (b) construction having a *fire-resistance* rating not less than 1 h, or
- (c) wired glass assemblies conforming to the Supplementary Guidelines.

3.12.4.3. Number and Location of Means of Egress

(1) Each platform in a *rapid transit station* shall be served by not less than 2 *means of egress* which are independent of and remote from each other from the platform to the exterior of the station.

(2) Where a continuous level walking surface is provided between two adjacent platforms, they may be considered as one platform for the purpose of conforming to this Subsection.

(3) At the platform level, the distance separating the egress facilities in Sentences (1) and (2) shall be the greater of one car length or 25 m.

(4) Except as required in Sentence (1), two or more *means of egress* are permitted to converge in conformance with Sentence 3.12.4.4.(6).

(5) *Means of egress* from platforms shall be located so that the travel time from the most remote point on a platform to a *protected route* does not exceed 4 min based on travel speeds of

(a) 38 m/min for horizontal travel, and

(b) 21 m/min for vertical rise.

3.12.4.4. Egress Capacity

(1) For a *rapid transit station*, the required aggregate *egress capacity* from each platform shall be determined by dividing the platform occupant load determined in accordance with Sentences 3.12.4.1.(2) to (6) by the required platform clearance time determined in accordance with Sentence (3).

(2) Where 2 platforms are considered as 1 platform as provided in Sentence 3.12.4.3.(2), the required *egress capacity* for each platform shall be determined separately.

(3) The required platform clearance time shall be 4 min less the travel time between the platform and the entry into the *protected route* based on travel speeds of

(a) 38 m/min for horizontal travel, and

(b) 21 m/min for vertical rise.

(4) For each *means of egress*, the required *egress capacity* at the platform shall be maintained for the entire length of the *means of egress*.

(5) Except as provided in Sentence (6), where 2 or more *means of egress* converge, the required *egress capacity* beyond that point shall be cumulative.

(6) The *egress capacity* in Sentence (5) need not be cumulative after converging where it can be shown that the platform clearance time in Sentence (3) is not exceeded.

3.12.4.5. Width of Means of Egress

(1) Except as otherwise required in this Subsection, the required width of *means of egress* serving platforms in a *rapid transit station* shall be determined based on

(a) the required *egress capacity* determined in conformance with Article 3.12.4.4., and

(b) the pedestrian flow rate for the type of *means of egress* facility listed in Table 3.12.4.5.

Table 3.12.4.5.**Pedestrian Flow Rates**

Forming Part of Sentence 3.12.4.5.(1)

| Type of Egress Facility | Flow Rate, pedestrians per minute | Flow Rate, pedestrians per minute per metre width |
|--|-----------------------------------|---|
| Platforms | N/A | 80 |
| Corridors | N/A | 80 |
| Doorways | N/A | 80 |
| Gates | N/A | 80 |
| Ramps not more than 4% | N/A | 80 |
| Ramps more than 4 % | N/A | 55 ⁽¹⁾ |
| Stairs | N/A | 55 ⁽¹⁾ |
| Escalators moving in direction of egress travel, nominal width | | |
| : 1 200 mm | 100 | N/A |
| : 800 mm | 80 | N/A |
| : 600 mm | 60 | N/A |
| Turnstiles, height of bar | | |
| : not more than 900 mm | 45 | N/A |
| : more than 900 mm | 25 | N/A |
| Column 1 | 2 | 3 |

Note to Table 3.12.4.5.:

(1) Flow rate is applied vertically.

(2) In calculating the required width of corridors and ramps with a grade of less than 4%, 300 mm at each sidewall shall be added to the width determined based on required *egress capacity*.

(3) In calculating the required width of egress routes, one escalator at each level in a *rapid transit station* shall be deemed to be out of service and not available for egress purposes.

(4) Except as provided in Sentence (5), the minimum width of *means of egress* facilities serving platforms shall be

(a) 1 750 mm for corridors and ramps,

(b) 1 750 mm for stairs,

(c) 430 mm for turnstiles,

(d) 500 mm for fare collection gates,

(e) 600 mm nominal width for escalators, and

(f) 900 mm for a door leaf.

(5) A second *means of egress* as required by Sentence 3.12.4.3.(1) is permitted to be not less than 1 100 mm wide.

(6) The minimum width of platforms shall be

(a) 3.2 m for side platforms, and

(b) 6.4 m for island platforms.

(7) The minimum unobstructed width of platforms measured from the platform edge shall be 2.5 m.

3.12.4.6. Egress Facilities

(1) Escalators forming part of a required *means of egress* shall

(a) where equipped to run reverse to the direction of egress travel, be capable of being stopped remotely and locally, and

- (b) have a vertical rise not more than 12 m between floors or landings.

(2) Where electrically operated gates or turnstiles used for fare collection are intended to be used as part of a required *means of egress* from a *rapid transit station*, provision shall be made to release the gates or turnstiles in accordance with Sentence (4) to allow them to operate freely in the direction of egress travel.

(3) Where locked doors which prevent entry into a *fare-paid area* are to be used as part of a required *means of egress* from a *rapid transit station*, provision shall be made to release the doors in accordance with Sentence (4) to allow them to operate freely in the direction of egress travel.

(4) The release device required in Sentences (2) and (3) shall be installed as an ancillary device to the fire alarm system and shall release immediately

- (a) upon activation of the fire alarm signal,
- (b) in the event of a power failure or ground fault, or
- (c) upon actuation of a manually operated switch accessible to authorized personnel and located in
 - (i) a fare collector's booth or kiosk at the station, or
 - (ii) the *central supervising station*.

(5) After release, the gates or turnstiles in Sentence (2) or the doors in Sentence (3) shall be capable of reactivation only by manual actuation of the switch in Clause (4)(c).

3.12.5. Fire Safety Provisions

3.12.5.1. Fire Alarm System

(1) Except as provided in this Subsection, a fire alarm system conforming to Subsection 3.2.4. shall be installed in a *rapid transit station*.

3.12.5.2. Exceptions

- (1) Manual pull stations need not be installed in a *rapid transit station*.
- (2) Audible signal appliances need not be installed in a *rapid transit station*.

3.12.5.3. Fire Detectors

(1) Except where the area is *sprinklered*, *fire detectors* shall be installed in every *service room*, *ancillary space*, leased space, booth and kiosk.

3.12.5.4. Central Supervising Station

(1) Each *rapid transit station* shall be monitored by a *central supervising station* equipped in accordance with the provisions of Chapter 9 of NFPA-72, "Standard for the Installation, Maintenance and Use of Protective Signaling Systems".

3.12.5.5. Annunciators

- (1) An annunciator shall be installed
 - (a) in a location that is readily accessible to firefighters entering the *building*, and

- (b) in the *rapid transit station*

- (i) in a designated collector's booth, or
- (ii) within viewing distance of a designated collector's booth.

3.12.5.6. Annunciator Indication

(1) All fire alarm, *fire detectors*, valve switches and water flow indicator signals when activated in a *rapid transit station* shall be indicated on the annunciator at the station.

(2) The annunciator at a *rapid transit station* shall be monitored simultaneously at the *central supervising station*.

(3) Where a *means of egress* from a *rapid transit station* leads through an adjoining *building*, any *alarm signal* originating in the *building* within two *storeys* above a connection to the station shall

- (a) be indicated on the *rapid transit station* annunciator, and
- (b) cause a message to flash a warning on a sign located in conformance with Sentence (4), that the *means of egress* shall not be used as an *exit* from the station.
- (4) A sign required in Clause (3)(b) shall be located
 - (a) at the doors from the *rapid transit station* to the adjoining *building*, and
 - (b) in the *means of egress* to the adjoining *building*, at the last point where there is a choice of direction to travel to not less than one other *exit*.

3.12.5.7. Emergency Power

(1) An emergency power supply conforming to Article 3.2.7.8. shall be provided for the fire alarm system.

3.12.5.8. Communication Systems

(1) In a *rapid transit station*, a public address system shall be installed and shall include loudspeakers which

- (a) can be operated from the *central supervising station*,
- (b) can be operated from the *rapid transit station* in which they are located, and
- (c) designed and located so that voice messages can be heard intelligibly throughout the *public area* in a *rapid transit station*.

(2) A 2-way communication system shall be installed in each *rapid transit station* with telephones located at

- (a) the collector's booth, and
- (b) at each end of each platform.

(3) The telephones in Sentence (2) shall be provided with connections to the *central supervising station*.

3.12.5.9. Emergency Reporting Devices

(1) Emergency reporting devices shall be located on passenger platforms and throughout a *rapid transit station* such that the distance of travel from any point in the *public area* to such a device is not more than 90 m.

(2) The emergency reporting devices required in Sentence (1) are permitted to be public telephones with an emergency no charge

capability and their location shall be plainly indicated by appropriate signs.

3.12.5.10. Sprinkler Systems

(1) Sprinkler systems shall conform with the requirements of Articles 3.2.5.13 to 3.2.5.16.

(2) In addition to the requirements of Subsection 3.12.3. the steel truss enclosure of an escalator shall be *sprinklered*.

(3) There shall be identification on a fire department connection for a sprinkler system in a *rapid transit station* to indicate that the connection is part of the station system.

3.12.5.11. Standpipe and Hose Systems

(1) A standpipe and hose system conforming to the requirements of Subsection 3.2.9. shall be installed in a *rapid transit station*, except as otherwise required or permitted in this Article.

(2) Where a *rapid transit station* includes more than one standpipe riser there shall be a cross-connection pipe having a diameter not less than 100 mm between each standpipe riser so that supplying of water through any fire department connection will furnish water throughout each riser.

(3) There shall be identification on a fire department connection for a standpipe system in a *rapid transit station* to indicate that the connection is part of the station system.

(4) Hose stations shall be located so that every portion of the *rapid transit station* can be reached by a hose stream and is within 3 m of a hose nozzle when the hose is extended.

(5) In addition to the requirements in Sentence (4), hose stations shall be located in each tunnel not more than 20 m from the end of the platform.

(6) The requirement for hose rack and fire hose in Sentence 3.2.9.3.(2) does not apply in a *rapid transit station*.

(7) Each hose station shall have a 38 mm hose connection and a 65 mm hose connection.

(8) All supply piping shall have a diameter not less than 100 mm.

3.12.6. Required Sanitary Facilities

3.12.6.1. Application

(1) Except as provided in this Subsection, Subsection 3.7.4. applies to a *rapid transit station*.

3.12.6.2. Washrooms Required

(1) Except as provided in Sentences (2) and (3), a washroom for each sex, containing not less than 1 water closet and 1 lavatory, shall be provided in each *rapid transit station* for use by employees.

(2) Where the number of employees in a *rapid transit station* is not more than 5, a washroom containing 1 water closet and 1 lavatory is permitted to be used by both sexes provided the door to the room can be locked from the inside.

(3) Where a *rapid transit station* is not staffed during operating hours, a washroom is not required in the station.

(4) In each *rapid transit station* located at the end of a line, a washroom for each sex, containing not less than 3 water closets and 2 lavatories, shall be provided for use by the public.

3.12.7. Emergency Ventilation

3.12.7.1. Application

(1) Every *rapid transit station* shall be provided with an emergency ventilation system conforming to NFPA 130, "Fixed Guideway Transit Systems".

3.12.8. Barrier-Free Design

3.12.8.1. Application

(1) Except as provided in this Subsection, the requirements in Section 3.8. apply to *rapid transit stations*.

(2) Not less than one *barrier-free* path of travel shall be provided from an entrance described in Article 3.8.1.2.

(a) into the *fare-paid area*, and

(b) to each platform.

3.12.8.2. Exception

(1) Where an elevator is used to comply with the requirements of Article 3.3.1.7., the provisions of Clause 3.3.1.7.(1)(a) do not apply where the elevator system complies with Article 3.12.8.3.

3.12.8.3. Elevator Requirements

(1) Except as provided in Sentence (2), the elevator in Article 3.12.8.2. shall be capable of providing transportation from each platform to an entrance described in Article 3.8.1.2.

(2) Where it is necessary to change elevators to reach the entrance described in Sentence (1), the elevator system shall be designed so that not more than one change of elevator is required between

(a) a platform and a *fare-paid area control*, and

(b) the *fare-paid area control* and the entrance.

3.12.8.4. Emergency Operation of Elevators

(1) Manual emergency recall operation shall be provided for all elevators.

(2) Key-operated switches for emergency recall described in Sentence (1) shall be provided and shall be located on the outside of each elevator shaft at the level of the *fare-paid area control*.

(3) In-car emergency service switches shall be provided in all elevator cars.

(4) Keys to operate the switches required in Sentences (2) and (3) shall be located at

(a) the annunciator required in Clause 3.12.5.5.(1)(a), and

(b) the collector's booth designated in Clause 3.12.5.5.(1)(b).

3.12.8.5. Washrooms Required to be Barrier-Free

(1) A *barrier-free* path of travel shall be provided to the washrooms required in Article 3.12.6.2.

(2) Where a washroom required in Sentence 3.12.6.2.(1) contains only 1 water closet and 1 lavatory, the washroom shall be designed in conformance with the requirements in Article 3.8.3.12.

(3) Where a washroom required in Sentence 3.12.6.2.(1) contains more than 1 water closet, the washroom shall be designed in conformance with the requirements in Articles 3.8.3.8. to 3.8.3.11.

(4) The washroom required in Sentence 3.12.6.2.(2) shall be designed in conformance with the requirements in Article 3.8.3.12.

(5) The washrooms required in Sentence 3.12.6.2.(4) shall be designed in conformance with the requirements in Articles 3.8.3.8. to 3.8.3.11.

Section 3.13. Tents and Air-Supported Structures

3.13.1. Tents

3.13.1.1. Application

(1) Except as provided in this Subsection, tents are exempted from complying with the requirements of this Code.

3.13.1.2. General

(1) Except as provided in Sentence (2), the requirements of this Subsection shall apply to all tents.

(2) Articles 3.13.1.4., 3.13.1.5., 3.13.1.6. and 3.13.1.10. apply to tents that

- (a) do not exceed 225 m² in ground area,
- (b) do not exceed 225 m² in aggregate ground area and are closer than 3 m apart,
- (c) do not contain bleachers, and
- (d) are not enclosed with sidewalls.

3.13.1.3. Means of Egress

(1) Except as provided in Sentences (2) and (3), tents shall conform to Sections 3.3. and 3.4.

(2) A tent need not conform to Article 3.4.6.11. except where swing type doors are provided.

(3) Where the area between adjacent tents or a tent and the property line is used as a *means of egress*, the minimum width between stake lines shall be the width necessary for *means of egress*, but not less than 3 m.

3.13.1.4. Clearance to Other Structures

(1) Tents shall not be erected closer than 3 m to the property line.

(2) Except as provided in Sentences (3), (4) and (5), tents shall not be erected closer than 3 m to other tents or structures on the same property.

(3) A *walkway* between a *building* and a tent occupied by the public is permitted provided

- (a) the tent is not closer than 3 m from the *building*, and
- (b) the *walkway* conforms to Article 3.1.3.18.

(4) Tents not occupied by the public need not be separated from one another, and are permitted to be erected less than 3 m from other structures on the same property, where such closer spacing does not create a hazard to the public.

(5) Tents located on fair grounds or similar open spaces, need not be separated from one another provided such closer spacing does not create a hazard to the public.

3.13.1.5. Clearances to Flammable Material

(1) The ground enclosed by a tent and for not less than 3 m outside of such structure shall be cleared of all flammable or *combustible* material or vegetation that will carry fire.

3.13.1.6. Flame Resistance

(1) Every tent, and tarpaulins, decorative materials, fabrics and films used in connection with tents, shall be certified to CAN/ULC S-109-M, "Standard for Flame Tests of Flame-Resistant Fabrics and Films", or NFPA 701 "Standard Method of Fire Tests for Flame-Resistant Textiles and Films".

3.13.1.7. Design of Framing and Supports

(1) The supporting framing structure and anchorage system for tents shall be designed and reviewed by a *professional engineer*.

3.13.1.8. Bleachers

(1) Where bleachers are provided in tents, they shall be designed in conformance with Articles 3.3.2.8., 3.3.2.10., 4.1.6.11., and 4.1.10.6.

3.13.1.9. Sanitary Facilities

(1) Except as provided in Sentence (3), the minimum number of water closets for tents shall be determined in accordance with Table 3.7.4.3.E.

(2) Article 3.7.4.16. applies to sanitary facilities in Sentence (1).

(3) Sanitary privies, chemical closets or other means for the disposal of human waste may be provided in lieu of toilet fixtures.

3.13.1.10. Provision for Fire-fighting

(1) Access shall be provided to all tents for the purpose of fire-fighting.

3.13.2. Air-Supported Structures

3.13.2.1. Application

(1) Except as provided in this Subsection, the requirements of the Code apply to *air-supported structures*.

3.13.2.2. General

(1) *Air-supported structures* shall not be used for Groups B, C, or Group F, Division 1 *major occupancies* or for classrooms.

(2) Except where no *fire separation* is required between *major occupancies*, *air-supported structures* shall contain not more than one *major occupancy*.

(3) Except as provided in Sentence (5), *air-supported structures* are exempt from complying with Articles 3.2.2.20. to 3.2.2.83., except for maximum *building* size.

(4) *Air-supported structures* may be designed with interior walls, *mezzanines*, or similar construction.

(5) Interior construction contained within *air-supported structures* must meet the construction requirements of Articles 3.2.2.20. to 3.2.2.83.

3.13.2.3. Spatial Separation

(1) Except as provided in Sentences (2), (3) and (4), *air-supported structures* shall not be erected closer than 3 m to other structures on the same property or to the property line.

(2) *Air-supported structures* not occupied by the public need not be separated from one another, and are permitted to be erected closer than 3 m from other structures on the same property where such closer spacing does not create a hazard to the *building* occupants or the public.

(3) Except as provided in Sentence (4), an *air-supported structure* is permitted to be attached to another *building* provided the *building* to which it is attached

(a) conforms to the requirements of other Parts of the Code based on the total *building areas* of the *air-supported structure* and the attached *building*,

(b) is *sprinklered*, and

(c) is separated from the *air-supported structure* by a *fire separation* having a *fire-resistance rating* of not less than 1 h.

(4) An *air-supported structure* is permitted to be attached to another *building* provided the *building* to which it is attached

(a) has a *building area* not more than 200 m²,

(b) conforms to the requirements of other Parts of the Code based on the *building area* of the attached *building*, and

(c) is *sprinklered* or separated from the *air-supported structure* by a *fire separation* having a *fire-resistance rating* of not less than 1 h.

3.13.2.4. Clearances to Flammable Material

(1) The ground enclosed by an *air-supported structure* and for not less than 3 m outside of such structure shall be clear of all flammable or *combustible* material or vegetation that will carry fire.

3.13.2.5. Flame Resistance

(1) *Air-supported structures* shall be constructed of material conforming to CAN/ULC S-109-M, "Standard for Flame Tests of Flame-Resistant Fabrics and Films", or NFPA 701, "Standard Method of Fire Tests for Flame-Resistant Textiles and Films".

(2) Materials for fabrics used in connection with *air-supported structures* are exempt from compliance with the requirements for *flame-spread ratings* for interior finishes in Subsection 3.1.13.

3.13.2.6. Emergency Air Supply

(1) An *air-supported structure* designed for an *assembly occupancy* with an *occupant load* of more than 200 persons shall have either an automatic emergency engine-generator set capable of powering one blower continuously for 4 h, or a supplementary blower powered by an automatic internal combustion engine.

Section 3.14. Signs

3.14.1. Scope

3.14.1.1. Application

(1) Except as provided otherwise in Article 3.14.1.2. this Section shall apply to the erection of all signs.

3.14.1.2. Exceptions

(1) The following signs shall not be subject to the provisions of this Section

(a) signs for regulating traffic or similar devices, legal notices or warnings at railroad crossings,

(b) signs in display windows including writing, representation, painting or lettering directly on the surface of any window or door, or other signs not affixed to the *building* interior,

(c) small signs displayed for the direction of the public including signs which identify rest rooms, freight entrances and such other similar directional signs,

(d) signs painted directly on a *building*, and

(e) incidental signs or other signs subject to municipal approval.

3.14.2. Alterations

3.14.2.1. Exceptions for Alterations

(1) The changing of movable parts of signs that are designed for changes, or the repainting of display matter shall not be deemed to be alterations.

3.14.3. Structural Requirements

3.14.3.1. Structural Design

(1) Except as provided herein, all sign structures shall be designed in accordance with Part 4.

3.14.3.2. Professional Design

(1) A sign structure shall be designed by an *architect* or *professional engineer* where it is

(a) a ground sign which exceeds 7.5 m in height above the adjacent finished ground,

(b) a projecting sign which weighs more than 115 kg, or

(c) a roof sign that has any face that is more than 10 m².

(2) A projecting sign shall not be attached or fastened in any manner to a parapet wall unless designed by an *architect* or *professional engineer*.

3.14.4. Plastic Sign Facing Materials

3.14.4.1. Combustible Sign Faces

(1) Plastic materials used in the construction of sign faces shall

(a) have an average burning rate not greater than 65 mm/min in sheets 1.5 mm thick when tested in accordance with ASTM D635, "Rate of Burning and/or Extent and Time of Burning of Self-supporting Plastics in a Horizontal Position",

- (b) have an average burning rate not greater than 140 mm/min when tested in accordance with ASTM D568, "Rate of Burning and/or Extent and Time of Burning of Flexible Plastics in a Vertical Position", and

- (c) have a measurement of material thickness in accordance with Method B-Machinists' Micrometer Without Ratchet of ASTM D374, "Thickness of Solid Electrical Insulation".

(2) Except as provided in Sentence (3), where the *exterior cladding* of a wall is required to be *noncombustible*, a plastic sign face or a group of contiguous plastic sign faces may be placed over such cladding provided each such sign face or group of contiguous sign faces

- (a) does not exceed 30% of the wall area of the *storey* on which it is installed,
- (b) does not exceed 15 m² in area or 1 200 mm in height at each *storey*, and
- (c) when located above the *first storey*, is vertically separated from other plastic sign faces by 1 200 mm of *noncombustible construction* unless separated by a horizontal *noncombustible* projection such as a *canopy*, extending the full width of, and projecting at least 900 mm beyond the exterior sign face.

(3) Where a plastic exterior sign is mounted as a face on a metal sign box that is at least 200 mm in depth, the requirements of Sentence (2) need not apply provided the sign box is mounted on a *noncombustible* exterior wall.

(4) Notwithstanding the requirements of Sentence (5), the plastic portion of an interior sign placed over or forming part of an interior wall surface in corridors, covered or enclosed *walkways* at or above *grade* in *buildings* shall

- (a) not exceed 15% of the wall area in, or over which it may be installed,
- (b) be supported by a device that will not detrimentally affect the *fire-resistance rating* of the interior wall to which it is attached or of which it may form a part, and encase the edges of the plastic sign face in metal,
- (c) not be positioned or sized in such a manner that it is less than 600 mm from the vertical line separating two adjacent premises,
- (d) be placed so that there is at least 600 mm vertical separation of *noncombustible* material between the top of the plastic sign surface and the ceiling surface,
- (e) be permitted to have an increase of 100% in area required in Clause (a) and a decrease of 50% of the separation distances required in Clauses (c) and (d) if the area is *sprinklered*, and
- (f) not have a *flame-spreading rating* above 250.

(5) Signs in *exits* and underground *walkways* shall have a *flame-spread rating* not more than 25.

3.14.5. Location Restrictions

3.14.5.1. Obstructions not Permitted

(1) No sign shall be located so as to obstruct openings required for light and ventilation, any required *means of egress* or required access for fire-fighting in accordance with Sentence 3.2.5.4.(2).

3.14.5.2. Clearance for Exterior Signs

(1) No exterior sign shall be erected overhanging a sidewalk or other pedestrian *walkway* unless the vertical distance, measured from the bottom of the overhanging portion of the sign to the surface of the sidewalk, is at least 2 400 mm.

(2) Except as provided hereinafter, no sign face shall be erected within 600 mm of the vehicular travelled portion of a private lane or roadway, or of a motor vehicle parking area unless the minimum vertical distance between *grade* and the bottom of the overhanging sign face is at least 4.25 m.

(3) Where the height of all vehicles using any private road or parking area is permanently restricted, the vertical distance in Sentence (2) may be reduced to the amount of the actual height restriction, for as long as the said height restriction is in existence on the premises.

Section 3.15. Additional Requirements for Change of Use

3.15.1. Scope

3.15.1.1. Application

(1) This Section applies where proposed *construction* in respect of an existing *building* will result in the following changes of use of all or part of the *building*

- (a) a change of the *major occupancy* of all or part of a *building* that is designated with a "Y" in Table 2.4.1.1.,
- (b) a *suite* of a Group C *major occupancy* is converted into more than one *suite* of Group C *major occupancy*,
- (c) a *farm building* or part of a *farm building* is changed to a *major occupancy*, or
- (d) the use of a *building* or part of a *building* is changed and the previous *major occupancy* of the *building* or part of the *building* cannot be determined.

(2) The changes in use described in Clauses (1)(b) to (d) shall be deemed to be a change of *major occupancy* for the purposes of this Section and Sentence 11.4.2.1.(1).

(3) The requirements of this Section are in addition to the requirements of other Parts of the Code as they apply to the proposed *construction*.

3.15.2. Additional Construction

3.15.2.1. Change of Use and Compensating Construction

(1) Where proposed *construction* will result in a change of use described in Clauses 3.15.1.1.(1)(a) to (d), additional *construction* shall be required in order that the *building* or part of a *building* subject to the change of use conforms to the requirements of Subsection 3.2.6. and Sections 3.7. and 3.11. as they apply to the new *major occupancy* that the *building* or part of a *building* is to support.

(2) For the purposes of this Article, existing *buildings* shall be classified as to their *construction* and *occupancy* as provided for in Sentence 11.2.1.1.(1).

3.15.2.2. Performance Level and Compensating Construction

(1) The *performance level* of a *building* after *construction* shall not be less than the *performance level* of the *building* prior to *construction*.

(2) For the purposes of Sentence (1), reduction of *performance level* shall be determined in accordance with the requirements of Articles 11.4.2.1. and 11.4.2.3.

(3) Where proposed *construction* would reduce the *performance level* of an existing *building*, compensating *construction* shall be required in conformance with Articles 11.4.3.1., 11.4.3.2. and 11.4.3.4.

(4) Section 11.5. applies in respect of the requirements of Sentences 11.4.3.4.(1), (3) and (4).

Part 4 Structural Design

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Part 4 Structural Design

Section 4.1. Structural Loads and Procedures

4.1.1. General

4.1.1.1. Scope

(1) The scope of this Part shall be as described in Section 2.1.

4.1.1.2. Definitions

(1) Reserved

4.1.1.3. Design Requirements

(1) *Buildings* and their structural members including formwork and falsework shall be designed to have sufficient structural capacity and structural integrity to resist safely and effectively all loads and effects of loads and influences that may reasonably be expected, having regard to the expected service life of *buildings*, and shall in any case satisfy the requirements of this Section.

(2) All permanent and temporary structural members, including formwork and falsework of a *building*, shall be protected against loads exceeding the specified loads during the *construction* period except when, as verified by analysis or test, temporary overloading of a structural member would result in no impairment of that member or any other member.

(3) Reserved

(4) Precautions shall be taken during all stages of *construction* to ensure that the *building* is not damaged or distorted due to loads applied during *construction*.

4.1.1.4. Design Basis

(1) *Buildings* and their structural members shall be designed by one of the following methods:

- (a) standard design procedures and practices provided by this Part and any standards and specifications referred to therein, except in cases of conflict the provisions of the *building code* shall govern, or
- (b) one of the following three bases of design:
 - (i) analysis based on generally established theory,
 - (ii) evaluation of a given full-scale structure or a prototype by a loading test,
 - (iii) studies of model analogues,

provided the design is carried out by a person qualified in the specific method applied and provided the design ensures a level of safety and performance at least equivalent to that provided for or implicit in design carried out by the methods referred to in Clause (a).

(2) Communications towers, dish antennas and their supporting structures shall conform to CAN/CSA-S37-M, "Antennas, Towers, and Antenna Supporting Structures".

4.1.1.5. Deflections

(1) In proportioning structural members to limit deflection, consideration shall be given to

- (a) the intended use of the *building* or member,
- (b) limiting damage to non-structural members and materials whose physical properties are known at the time of the design,
- (c) limiting damage to the structure itself, and
- (d) creep, shrinkage and temperature.

(2) Sway effects produced by vertical loads acting on the structure in its displaced configuration shall be taken into account in the design of *buildings* and their structural members.

(3) The lateral deflection of *buildings* due to design wind and gravity loads shall be checked to ensure that nonstructural elements whose nature is known at the time the structural design is carried out will not be damaged.

(4) Except as provided in Sentence (5), the total drift per *storey* under specified wind and gravity loads shall not exceed 1/500 of the *storey* height unless other drift limits are specified in the design standards referenced in Section 4.3.

(5) The deflection limits required in Sentence (4) do not apply to industrial *buildings* or sheds if it is known by experience that greater

movement will have no significantly adverse effect on the strength and function of the *building*.

4.1.1.6. Vibrations

(1) Floor systems susceptible to vibrations shall be designed so that there will be no significantly adverse effects on the intended *occupancy* of the *building* from vibrations.

(2) Unusually flexible *buildings* and *buildings* whose ratio of height to minimum effective width exceeds 4 to 1 shall be designed so that there will be no significant adverse effects on the intended *occupancy* of the *building* from vibrations under dynamic wind load.

4.1.1.7. Stability

(1) Provision shall be made to ensure adequate stability of a structure as a whole, and adequate lateral, torsional and local stability of all structural parts.

4.1.1.8. Reserved

4.1.2. Specified Loads and Effects

4.1.2.1. Loads, Forces and Effects

(1) Except as provided for in Article 4.1.2.2., the following specified loads, forces and effects shall be considered in the design of a *building* and its structural members and connections:

D - *dead loads* as provided for in Subsection 4.1.5.,

E - *live load* due to earthquake as specified in Subsection 4.1.9.,

L - *live load* due to static or inertia forces arising from intended use and *occupancy* (includes vertical loads due to cranes); snow, ice and rain; earth and hydrostatic pressure,

T - effects due to contraction or expansion caused by temperature changes, shrinkage, moisture changes, creep in component materials, movement due to differential settlement or combination thereof,

W - *live load* due to wind as specified in Subsection 4.1.8.

(2) Minimum specified values of these loads, as set forth in Subsections 4.1.5. to 4.1.10., shall be increased to account for dynamic effects where applicable.

4.1.2.2. Loads Not Listed

(1) Where a *building* or structural member can be expected to be subjected to loads, forces or other effects not listed in Article 4.1.2.1., such effects shall be taken into account in the design based on the most appropriate information available.

(2) If it can be shown by engineering principles, or if it is known from experience, that neglect of some or all of the effects due to **T** do not affect the structural safety and serviceability, they need not be considered in the calculations.

4.1.2.3. Structural Design

(1) Structural design shall be carried out in accordance with Subsection 4.1.4., Working Stress Design or Subsection 4.1.3., Limit States Design.

4.1.3. Limit States Design

4.1.3.1. Definitions

(1) In this Subsection, the term

(a) limit states means those conditions of a *building* structure in which the *building* ceases to fulfil the function for which it was designed,

(Those states concerning safety are called ultimate limit states and include exceeding the load carrying capacity, overturning, sliding, fracture and fatigue, while those states which restrict the intended use and *occupancy* of the *building* are called serviceability limit states, and include deflection, vibration, permanent deformation and cracking.)

(b) specified loads (**D**, **E**, **L**, **T** and **W**) mean those loads defined in Article 4.1.2.1. and given in this Section,

(c) load factor, α , means a factor in Sentence 4.1.3.2.(4) applied to a specified load which, for the limit states under consideration, takes into account the variability of the loads and load patterns and analysis of their effects,

(d) factored load means the product of a specified load and its load factor,

(e) load combination factor, Ψ , means a factor in Sentences 4.1.3.2.(5) and (6) applied to the factored loads other than *dead load* to take into account the reduced probability of a number of loads from different sources acting simultaneously,

(f) importance factor, γ , means a factor in Sentence 4.1.3.2.(7) applied to the factored loads other than *dead load* to take into account the consequences of collapse as related to the use and *occupancy* of the *building*,

(g) resistance, **R**, of a member, connection, structure or *foundation*, is based on the dimensions and on the specified properties of the structural materials,

(h) resistance factor, ϕ , means a factor applied to a specified material property or to the resistance of a member, connection, structure or *foundation*, which for the limit state under consideration takes into account the variability of dimensions and material properties, workmanship, type of failure and uncertainty in the prediction of resistance, and

(i) factored resistance means the product of resistance and the applicable resistance factor.

4.1.3.2. Safety Check for Strength and Stability

(1) A *building* and its structural components shall be designed to have sufficient strength and stability so that the factored resistance is greater than or equal to the effect of factored loads, as required in Sentences (3) or (8).

(2) In cases of overturning, uplift and sliding, anchorage is required if the effect of loads tending to cause overturning, uplift or sliding, multiplied by load factors greater than 1.0 given in Sentence (4), is greater than the stabilizing effect of *dead load* multiplied by a load factor of 0.85 as given in Sentence (4).

(3) For load combinations not including earthquake, the effect of factored loads is the structural effect due to the specified loads multiplied by load factors, α , in Sentence (4), a load combination factor, ψ , in Sentences (5) and (6) and an importance factor, γ , in Sentence (7), and the factored load combinations shall be taken as

$$\alpha_D D + \gamma \psi [\alpha_L L + \alpha_W W + \alpha_T T]$$

(4) The load factors, α , shall be equal to

- (a) $\alpha_D = 1.25$, except that when the *dead load* resists overturning, uplift or reversal of load effect, $\alpha_D = 0.85$,
- (b) $\alpha_L = 1.5$,
- (c) $\alpha_W = 1.5$, and
- (d) $\alpha_T = 1.25$.

(5) The load combination factor, Ψ , shall be equal to

- (a) 1.0 when only 1 of the loads **L**, **W** and **T** in Sentence 4.1.2.1.(1) acts,
- (b) 0.70 when 2 of the loads **L**, **W** and **T** in Sentence 4.1.2.1.(1) act, and
- (c) 0.60 when all of the loads **L**, **W** and **T** in Sentence 4.1.2.1.(1) act.

(6) The most unfavourable effect shall be determined by considering the loads **L**, **W** and **T** in Sentence 4.1.2.1.(1) acting alone with $\Psi = 1.0$ or in combination with $\Psi = 0.70$ or 0.60.

(7) The importance factor, γ , shall be not less than 1.0 for all *buildings*, except that for *buildings* where it can be shown that collapse is not likely to cause injury or other serious consequences, it shall be not less than 0.8.

(8) For load combinations including earthquake, the factored load combinations shall be taken as

- (a) $1.0D + \gamma(1.0E)$ and either,
- (b) $1.0D + \gamma(1.0L + 1.0E)$ for storage and *assembly occupancies*, or
- (c) $1.0D + \gamma(0.5L + 1.0E)$ for all other *occupancies*.

4.1.3.3. Serviceability and Fatigue

(1) A *building* and its structural components shall be checked for serviceability limit states as defined in Clause 4.1.4.1.(1)(a) and fatigue under the effect of the specified loads as required in the standards described in Section 4.3.

(2) Where more than one load contributes to the stress in a member, the combination of loads shall be assumed to be

$$D + \psi[L + W + T]$$

where Ψ is in conformance with Sentences 4.1.3.2.(5) and (6).

4.1.4. Working Stress Design

4.1.4.1. Load Combinations

(1) In designing *buildings* and their structural members, all of the loads listed in Article 4.1.2.1. shall be considered to act in the following combinations, whichever combination produces the most unfavourable effects in the *building*, *foundation* or structural member concerned, when appropriately reduced according to Article 4.1.4.2.

- (a) **D**
- (b) **D + L**
- (c) **D + (W or 2/3E)**

(d) **D + T**

(e) **D + L + (W or 2/3E)**

(f) **D + L + T**

(g) **D + (W or 2/3E) + T**

(h) **D + L + (W or 2/3E) + T**

4.1.4.2. Load Combination Factors

(1) The total of the combined load effects may be multiplied by the following load combination factors:

- (a) 1.0 for the combinations in Clauses 4.1.4.1.(1)(a) to (d),
- (b) 0.75 for the combinations in Clauses 4.1.4.1.(1)(e) to (g), and
- (c) 0.66 for the combination in Clause 4.1.4.1.(1)(h).

4.1.4.3. Stress Reversal

(1) When loads other than **D** counteract **D** in a structural member or joint, special caution shall be exercised by the *designer* to ensure adequate safety for possible stress reversal.

4.1.4.4. Overturning and Sliding

(1) A *building* shall be proportioned to resist an overturning moment and sliding force of not less than twice that due to the loads acting on the structure when the structure is considered as an entire unit acting on or anchored to its bearing stratum or supporting structure.

(2) The resistance to overturning shall be calculated as the sum of the stabilizing moment of the *dead load* only, plus the ultimate resistance of any anchoring devices.

4.1.5. Dead Loads

4.1.5.1. Dead Loads

(1) The specified *dead load* for a structural member consists of

- (a) the weight of the member itself,
- (b) the weight of all materials of *construction* incorporated into the *building* to be supported permanently by the member,
- (c) the weight of *partitions*,
- (d) the weight of permanent equipment, and
- (e) forces due to prestressing.

(2) Except as provided in Sentence (5), in areas of a *building* where *partitions* other than permanent *partitions* are shown on the drawings, or where *partitions* might be added in the future, allowance shall be made for the weight of such *partitions*.

(3) The *partition* weight allowance in Sentence (2) shall be determined from the actual or anticipated weight of the *partitions* placed in any probable position, but shall be not less than 1 kPa over the area of floor being considered.

(4) *Partition* loads used in design shall be shown on the drawings in sufficient detail to enable the loads due to materials of *construction* incorporated in the *building* to be determined.

(5) In cases where the *dead load* is counteractive, the load allowances as provided in Sentences (2) and (3) shall not be included in the design calculations.

4.1.6. Live Loads Due to Use and Occupancy**4.1.6.1. Loads Due to Use of Floors and Roofs**

(1) The specified *live load* on an area of floor or roof depends on the intended use and *occupancy*, and shall not be less than the uniformly distributed load patterns in Article 4.1.6.3., the loads resulting from the intended use or the concentrated loads in Article 4.1.6.10., whichever produces the most critical effect.

4.1.6.2. Uses Not Stipulated

(1) Where the use of an area of floor or roof is not provided for in Article 4.1.6.3., the specified *live loads* due to the use and *occupancy* of the area shall be determined from an analysis of the loads resulting from

- (a) the weight of the probable assembly of persons,
- (b) the weight of the probable accumulation of equipment and furnishings, and
- (c) the weight of the probable storage of materials.

4.1.6.3. Full and Partial Loading

(1) The uniformly distributed load shall be not less than the value listed in Table 4.1.6.3., reduced as may be provided for in Article 4.1.6.9., applied uniformly over the entire area, or on any portions of the area, whichever produces the most critical effects in the members concerned.

Table 4.1.6.3.

**Specified Uniformly Distributed Live Loads on
an Area of Floor or Roof**

Forming Part of Sentence 4.1.6.3.(1)

| Use of Area of Floor or Roof | Minimum Specified Load, kPa |
|--|-----------------------------|
| Assembly Areas | |
| (a) except for those areas listed under (b) and (c), assembly areas with or without fixed seats including | |
| Arenas, Rinks, Stadia, Auditoria, Gymnasia | |
| Churches, Museums, Promenades | |
| Dance floors, Dining areas ⁽¹⁾ | |
| Foyers and entrance halls | |
| Grandstands, reviewing stands and bleachers | |
| Stages, Theatres | |
| and other areas with similar uses | 4.8 |
| (b) assembly areas with fixed seats that have backs over at least 80 per cent of the assembly area for the following uses: | |
| Churches, Courtrooms, Lecture halls, Theatres | 2.4 |
| (c) classrooms with or without fixed seats | 2.4 |
| Attics | |
| Accessible by a stairway in <i>residential occupancies</i> only | 1.4 |

| | |
|--|--------------------|
| Having limited accessibility so that there is no storage of equipment or materials | 0.5 |
| Balconies | |
| Exterior | 4.8 |
| Interior and <i>mezzanines</i> that could be used for the assembly of people as a viewing area ⁽²⁾ | 4.8 |
| Interior and <i>mezzanines</i> other than above | (3) |
| Corridors, lobbies and aisles | |
| Other than those listed below | 4.8 |
| Not over 1 200 mm in width and all upper floor corridors of residential areas only of apartments, hotels and motels (that can not be used for the assembly of people as a viewing area) ⁽²⁾ | (3) |
| Equipment areas and <i>service rooms</i> including | |
| Generator rooms | |
| Mechanical equipment exclusive of elevators | |
| Machine rooms | |
| Pump rooms | |
| Transformer vaults | |
| Ventilating or <i>air-conditioning</i> equipment | 3.6 ⁽⁴⁾ |
| Exits and fire escapes | 4.8 |
| Factories | 6.0 ⁽⁴⁾ |
| Footbridges | 4.8 |
| Garages for | |
| Passenger cars | 2.4 |
| Unloaded buses and light trucks | 6.0 |
| Loaded buses and trucks and all other trucking spaces | 12.0 |
| Kitchens (other than residential) | 4.8 |
| Libraries | |
| Stack rooms | 7.2 |
| Reading and study rooms | 2.9 |
| Office areas (not including record storage and computer rooms) located in | |
| <i>Basement</i> and <i>first storey</i> | 4.8 |
| Floors above <i>first storey</i> | 2.4 |
| Operating rooms and laboratories | 3.6 |
| Patients' bedrooms | 1.9 |
| Recreation areas that cannot be used for assembly purposes including | |
| Billiard rooms | |
| Bowling alleys | |
| Pool rooms | 3.6 |
| Residential areas (within the scope of Article 2.1.1.2.) | |
| Sleeping and living quarters in apartments, <i>hotels</i> , motels, boarding schools and colleges | 1.9 |
| Work areas within <i>live/work units</i> | 2.4 |
| Residential areas (within the scope of Article 2.1.1.3.) | |
| Bedrooms | 1.4 |
| Other areas | 1.9 |
| Stairs within <i>dwelling units</i> | 1.9 |
| Retail and wholesale areas | 4.8 |

| | |
|---|--------------------|
| Roofs | 1.0 ⁽⁵⁾ |
| Sidewalks and driveways over areaways and basements | 12.0 |
| Storage areas, including locker rooms in apartment buildings | 4.8 ⁽⁴⁾ |
| Toilet areas | 2.4 |
| Underground slabs with earth cover | (4) |
| Warehouses | 4.8 ⁽⁴⁾ |
| Column 1 | 2 |

Notes to Table 4.1.6.3.:

- (1) See Article 4.1.6.6.
 (2) Reserved
 (3) See Article 4.1.6.4.
 (4) See Article 4.1.6.7.
 (5) See Article 4.1.7.1.

4.1.6.4. Loads for Occupancy Served

(1) The following shall be designed to carry not less than the specified load required for the *occupancy* they serve:

- (a) corridors, lobbies and aisles not over 1 200 mm in width,
- (b) all corridors above the *first storey* of residential areas of apartments, hotels and motels, and
- (c) interior balconies and *mezzanines*,

provided they cannot be used by an assembly of people as a viewing area.

4.1.6.5. Loads on Exterior Areas

(1) Exterior areas accessible to vehicular traffic shall be designed for their intended use including the weight of fire fighting equipment, but not less than the *live loads* due to snow, ice and rain prescribed in Subsection 4.1.7.

(2) Exterior areas accessible to pedestrian traffic, but not vehicular traffic, shall be designed for their intended use, but not less than

- (a) the *live load* prescribed for assembly areas in Table 4.1.6.3., and
- (b) the *live loads* due to snow, ice and rain as prescribed in Subsection 4.1.7.

4.1.6.6. Loads for Dining Areas

(1) The minimum specified load in Table 4.1.6.3. for dining areas may be reduced to 2.4 kPa for dining areas in *buildings* that have been converted for such purposes provided that the *floor area* does not exceed 100 m² and use of the dining area for other assembly purposes including dancing is precluded.

4.1.6.7. Floor Loads Due to Intended Use

(1) Equipment areas and *service rooms*, factories, storage areas and warehouses shall be designed for the loads due to their intended use but not less than the specified loads listed in Table 4.1.6.3.

4.1.6.8. More Than One Occupancy

(1) Where an area of floor or roof is intended for 2 or more *occupancies* at different times, the value to be used from Table 4.1.6.3. shall be the greatest value for any of the *occupancies* concerned.

4.1.6.9. Variation with Tributary Area

(1) An area used for *assembly occupancies* designed for a *live load* of less than 4.8 kPa shall have no reduction for tributary area.

(2) Where a structural member supports a tributary area of floor, roof or combination thereof greater than 80 m² used for *assembly occupancies* designed for a *live load* of 4.8 kPa or more, or for storage, manufacturing, retail stores, garages or as a footbridge, the specified *live load* due to use and *occupancy*, excluding snow, is the load provided for in Article 4.1.6.3. multiplied by

$$0.5 + \sqrt{(20/A)}$$

where A is the tributary area in square metres for this type of use and *occupancy*, excluding the area supporting snow.

(3) Where a structural member supports a tributary area of floor, roof or combination of these greater than 20 m² for any use or *occupancy* other than *assembly occupancies* and those indicated in Sentences (1) and (2), the specified *live load* due to use and *occupancy*, excluding snow, is the load provided for in Article 4.1.6.3. multiplied by

$$0.3 + \sqrt{(9.8/B)}$$

where B is the tributary area in square metres for this type of use and *occupancy*, excluding the area supporting snow.

4.1.6.10. Concentrated Loads

(1) The specified load due to possible concentrations of load resulting from the use of an area of floor or roof shall not be less than that listed in Table 4.1.6.10. applied over an area of 750 mm by 750 mm located so as to cause maximum effects, except that for *occupancies* not listed in Table 4.1.6.10., the concentrations of load shall be determined in accordance with Article 4.1.6.2.

4.1.6.11. Bleacher Seats

(1) Bleacher seats shall be designed for a uniformly distributed load of 1.75 kN for each linear metre or for a concentrated load of 2.2 kN distributed over a length of 750 mm, whichever produces the greatest effect on the supporting members.

4.1.6.12. Helicopter Landing Areas

(1) Helicopter landing areas on roofs shall be constructed in conformance with "Heliport and Helideck Standards and Recommended Practices", third edition, 1985, published by Transport Canada.

4.1.6.13. Roof Parking Decks

(1) Roof parking decks shall be designed for the uniformly distributed loads in Table 4.1.6.3., the concentrated loads in Table 4.1.6.10. or the roof snow load, whichever produces the greatest effect in the members concerned.

Table 4.1.6.10.

Specified Concentrated Live Loads on an Area of Floor or Roof

Forming Part of Sentence 4.1.6.10.(1)

| Area of Floor or Roof | Minimum Specified Concentrated Load, kN |
|--|---|
| Roof surfaces | 1.3 |
| Floors of classrooms | 4.5 |
| Floors of offices, manufacturing buildings, hospital wards and stages | 9.0 |
| Floors and areas used by passenger cars | 11 |
| Floors and areas used by vehicles not exceeding 3600 kg gross weight | 18 |
| Floors and areas used by vehicles exceeding 3600 kg but not exceeding 9000 kg gross weight | 36 |
| Floors and areas used by vehicles exceeding 9000 kg gross weight | 54 |
| Driveways and sidewalks over areaways and basements | 54 |
| Column 1 | 2 |

4.1.7. Live Loads Due to Snow, Ice and Rain

4.1.7.1. Specified Snow Loading

(1) The specified loading, S , due to snow accumulation on a roof or any other building surface subject to snow accumulation shall be calculated from the formula

$$S = S_s(C_b \cdot C_w \cdot C_s \cdot C_a) + S_r$$

where S_s is the ground snow load in kPa, determined in accordance with Subsection 2.5.1.,

S_r is the associated rain load in kPa determined in accordance with Subsection 2.5.1., but not greater than $S_s(C_b \cdot C_w \cdot C_s \cdot C_a)$,

C_b is the basic roof snow load factor of 0.8,

C_w is the wind exposure factor in Sentences (2) and (3),

C_s is the slope factor in Sentences (4), (5) and (6), and

C_a is the accumulation factor in Sentence (7).

(2) Except as provided for in Sentence (3), the wind exposure factor, C_w , shall be 1.0.

(3) The wind exposure factor in Sentence (2) may be reduced to 0.75, or in exposed areas north of the treeline to 0.5, where

(a) the building is in an exposed location, so that the roof is exposed to the winds on all sides, with no obstructions higher than the roof located closer to the building than a distance equal to 10 times the height of the obstruction above the roof,

(b) the area of roof under consideration is exposed to the wind on all sides with no significant obstructions on the roof, such as parapet walls, within a distance of at least 10 times the difference

between the height of the obstruction and $C_b \cdot C_w \cdot S_s / \gamma$ metres, where γ is the unit weight of snow on roofs, and

(c) the loading does not involve accumulation of snow due to drifting from adjacent surfaces.

(4) Except as provided for in Sentences (5) and (6), the slope factor, C_s , shall be

(a) 1.0 when the roof slope, α , is equal to or less than 30° ,

(b) $(70^\circ - \alpha)/40^\circ$ when α is greater than 30° , but not greater than 70° , and

(c) 0 when α exceeds 70° .

(5) The slope factor, C_s , for unobstructed slippery roofs where snow and ice can slide completely off the roof shall be

(a) 1.0 when the roof slope, α , is equal to or less than 15° ,

(b) $(60^\circ - \alpha)/45^\circ$ when α is greater than 15° , but not greater than 60° , and

(c) 0 when α exceeds 60° .

(6) The slope factor, C_s , shall be 1.0 when used in conjunction with accumulation factors for increased snow load as given in Subclauses (7)(c)(ii) and (7)(c)(v).

(7) The accumulation factor, C_a

(a) shall be 1.0, except that

(b) for large flat upper or lower roofs it shall be

(i) $1.2 [1 - (30/l^*)^2]$ but not less than 1.0, for roofs with $C_w = 1.0$, or

(ii) $1.6 [1 - (120/l^*)^2]$ but not less than 1.0, for roofs with $C_w = 0.75$ or 0.5,

where

l^* = the characteristic length of the upper or lower roof defined as $l^* = 2w - w^2/l$, in metres,

w = the smaller plan dimension of the roof, in metres,

l = the larger plan dimension of the roof, in metres,

and

(c) where appropriate for the shape of the roof, shall be assigned other values which account for

(i) non-uniform snow loads on gable, arched or curved roofs and domes,

(ii) increased snow loads in valleys,

(iii) increased non-uniform snow loads due to snow drifting onto a roof which is at a level lower than other parts of the same building or at a level lower than another building within 5 m of it,

(iv) increased non-uniform snow loads on areas adjacent to roof projections, such as penthouses, large chimneys and equipment, and

(v) increased snow or ice loads due to snow sliding or drainage of meltwater from adjacent roofs.

4.1.7.2. Full and Partial Loading

(1) A roof or other *building* surface and its structural members subject to loads due to snow accumulation shall be designed for the specified load in Sentence 4.1.7.1.(1), distributed over the entire loaded area.

(2) In addition to the distribution in Sentence (1), flat roofs and shed roofs, gable roofs of 15° slope or less and arched or curved roofs with rise to span ratios equal to or less than 1/10 shall be designed for the specified uniform snow load in Sentence 4.1.7.1.(1), computed using $C_a = 1.0$, distributed on any 1 portion of the loaded area, and half of this load on the remainder of the loaded area, in such a way as to produce the greatest effects on the member concerned.

4.1.7.3. Specified Rain Load

(1) The specified load due to the accumulation of rain water on a surface, whose position and shape and deflection under load is such as to make such an accumulation possible, is that resulting from the 24 h rainfall determined in conformance with Subsection 2.5.1. over the horizontal projection of the surface and all tributary surfaces.

(2) The provisions of Sentence (1) apply whether or not the surface is provided with drainage, such as rain water leaders.

(3) Except as provided for in Sentence 4.1.7.1.(1) and except where a roof is intended to provide rain water retention, loads due to rain need not be considered to act simultaneously with loads due to snow.

4.1.8. Live Loads Due to Wind

4.1.8.1. Specified Wind Loading

(1) The specified external pressure or suction due to wind on part or all of a surface of a *building* shall be calculated from

$$p = qC_eC_gC_p$$

where p = the specified external pressure acting statically and in a direction normal to the surface either as a pressure directed towards the surface or as a suction directed away from the surface,

q = the reference velocity pressure as provided for in Sentence (4),

C_e = the exposure factor as provided for in Sentence (5),

C_g = the gust effect factor as provided for in Sentence (6), and

C_p = the external pressure coefficient averaged over the area of the surface considered.

(2) The net wind load for the *building* as a whole shall be the algebraic difference of the loads on the windward and the leeward surfaces, and in some cases may be calculated as the products of the external pressures or suctions and the areas of the surfaces over which they are averaged as provided in Sentence (1).

(3) The net specified pressure due to wind on part or all of a surface of a *building* shall be the algebraic difference of the external pressure or suction as provided for in Sentence (1) and the specified internal pressure or suction due to wind calculated from

$$p_i = qC_eC_gC_{p_i}$$

where p_i = the specified internal pressure acting statically and in a direction normal to the surface either as a pressure (directed outwards) or as a suction (directed inwards),

q = the reference velocity pressure, as provided for in Sentence 4,

C_e = the exposure factor, as provided for in Sentence 5, evaluated at the building mid-height instead of the height of the element considered,

C_g = the gust effect factor as provided for in Sentence (6), and

C_{p_i} = the internal pressure coefficient.

(4) The reference velocity pressure, q , is the appropriate value determined in conformance with Subsection 2.5.1. for the following conditions:

(a) the reference velocity pressure, q , for the design of cladding shall be based on a probability of being exceeded in any one year of 1 in 10,

(b) the reference velocity pressure, q , for the design of structural members for deflection and vibration shall be based on a probability of being exceeded in any one year of 1 in 10,

(c) for all *buildings*, except those listed in Clause (d), the reference velocity pressure, q , for the design of structural members for strength shall be based on a probability of being exceeded in any one year of 1 in 30, and

(d) the reference velocity pressure, q , for the design of structural members for strength for *post-disaster buildings* shall be based on a probability of being exceeded in any one year of 1 in 100.

(5) The exposure factor C_e shall be

(a) the value shown in Table 4.1.8.1. for the appropriate reference height for the surface or part of the surface,

(b) the value of the function $(h/10)^{1/5}$ but not less than 0.9 where h is the reference height above *grade* in metres for the surface or part of the surface, or

(c) if a dynamic approach to the action of wind gusts is used, an appropriate value depending on both height and shielding.

Table 4.1.8.1.

Exposure Factors, C_e

Forming Part of Sentence 4.1.8.1.(5)

| Height, m | Exposure Factor |
|----------------|-----------------|
| >0 to ≤ 6 | 0.9 |
| > 6 to ≤ 12 | 1.0 |
| > 12 to ≤ 20 | 1.1 |
| > 20 to ≤ 30 | 1.2 |
| > 30 to ≤ 44 | 1.3 |
| > 44 to ≤ 64 | 1.4 |
| > 64 to ≤ 85 | 1.5 |
| > 85 to ≤ 140 | 1.6 |
| > 140 to ≤ 240 | 1.8 |
| > 240 to ≤ 400 | 2.0 |
| Column 1 | 2 |

(6) The gust effect factor C_g is one of the following values:

- (a) 1.0 or 2.0 for internal pressures as appropriate,
- (b) 2.0 for the *building* as a whole and main structural members,
- (c) 2.5 for small elements including cladding, or
- (d) if a dynamic approach to the action of wind gusts is used, an appropriate value depending on the turbulence of the wind and the size and natural frequency of the structure.

4.1.8.2. Dynamic Effects of Wind

(1) *Buildings* whose height is greater than 4 times their minimum effective width or greater than 120 m and other *buildings* whose light weight, low frequency and low damping properties make them susceptible to vibration shall be

- (a) designed by experimental methods for the danger of dynamic overloading and vibration and the effects of fatigue, or
- (b) designed using a dynamic approach to the action of wind gusts.

4.1.8.3. Full and Partial Loading

(1) *Buildings* and structural members shall be capable of withstanding the effects of

- (a) the full winds acting along each of the two principal axes considered separately,
- (b) the wind loads as described in (a) but with 25% of the load removed from any portion of the area,
- (c) the wind loads as in (a) but considered simultaneously at 75% of their full value, and
- (d) the wind loads as described in (c) but with 25 per cent of these loads removed from any portion of the area.

4.1.8.4. Interior Walls and Partitions

(1) In the design of interior walls and *partitions* due consideration shall be given to differences in air pressure on opposite sides of the wall or *partition* which may result from

- (a) pressure differences between the windward and leeward sides of a *building*,
- (b) stack effects due to a difference in air temperature between the exterior and interior of the *building*, and
- (c) air pressurization by the mechanical services of the *building*.

4.1.9. Live Loads Due to Earthquakes

4.1.9.1. Analysis

(1) The specified loading due to earthquake motion shall be determined by the analysis given in this Subsection.

- (2) In this Subsection

- A_r = response amplification to account for type of attachment of mechanical/electrical equipment, as defined in Sentence 4.1.9.1.(19),
- A_x = amplification factor at level x to account for variation of response of mechanical/electrical equipment with elevation within the *building*, as defined in Sentence 4.1.9.1.(19),
- C_p = seismic coefficient for mechanical/electrical equipment, as defined in Sentence 4.1.9.1.(19),
- D = the dimension of the *building* in a direction parallel to the applied forces,
- D_{nx} = plan dimension of the *building* at level x perpendicular to the direction of seismic loading being considered,
- D_s = dimension of wall or braced frame which constitutes the main lateral-load-resisting system in a direction parallel to the applied forces,
- e_x = distance measured perpendicular to the direction of seismic loading between centre of mass and centre of rigidity at the level being considered,
- F = *foundation* factor as given in Sentence 4.1.9.1.(11),
- F_t = portion of V to be concentrated at the top of the structure as defined in Sentence 4.1.9.1.(13),
- F_x = lateral force applied to level x ,
- h_i, h_n, h_x = the height above the base ($i = 0$) to level i , n , or x , respectively, where the base of the structure is that level at which the horizontal earthquake motions are considered to be imparted to the structure,
- h_s = interstorey height ($h_i - h_{i-1}$),
- I = seismic importance factor of the structure, as described in Sentence 4.1.9.1.(10),
- J = numerical reduction coefficient for base overturning moment as defined in Sentence 4.1.9.1.(23),
- J_x = numerical reduction coefficient for moment at level " x " as defined in Sentence 4.1.9.1.(24),
- Level i = any level in the *building*, $i = 1$ for first level above the base,
- Level n = that level which is uppermost in the main portion of the structure,
- Level x = that level which is under design consideration,
- N = total number of *storeys* above exterior *grade* to level n , (N is usually numerically equal to n)
- R = force modification factor that reflects the capacity of a structure to dissipate energy through inelastic behaviour, as given in Sentence 4.1.9.1.(8),
- S = seismic response factor, for unit value of zonal velocity ratio, as defined in Sentence 4.1.9.1.(6),
- S_p = horizontal force factor for part or portion of a *building* and its anchorage, as given in Table 4.1.9.1.D. and Sentences 4.1.9.1.(17) and (19),
- T = fundamental period of vibration of the *building* or structure in seconds in the direction under consideration,
- T_x = floor torque at level x as defined in Sentence 4.1.9.1.(28),
- U = factor representing level of protection based on experience, as specified in Sentence 4.1.9.1.(4),

- v = zonal velocity ratio = the specified zonal horizontal ground velocity expressed as a ratio to 1 m/s,
- V = minimum lateral seismic force at the base of the structure, to be used with a load factor $\alpha_E = 1.0$,
- V_e = equivalent lateral force at the base of the structure representing elastic response, as specified in Sentence 4.1.9.1.(5),
- V_p = lateral force on a part of the structure,
- W = dead load plus 25% of the design snow load specified in Subsection 4.1.7. plus 60% of the storage load for areas used for storage and the full contents of any tanks,
- W_i, W_x = that portion of W which is located at or is assigned to level i or x , respectively,
- W_p = the weight of a part or portion of a structure, e.g. cladding, partitions and appendages,
- Z_a = acceleration-related seismic zone,
- Z_v = velocity-related seismic zone.

(3) Earthquake forces shall be assumed to act in any horizontal direction, except that independent design about each of the principal axes shall be considered to provide adequate resistance in the structure for earthquake forces applied in any direction.

(4) The minimum lateral seismic force, V , shall be calculated in accordance with the following formula:

$$V = (V_e/R)U$$

where $U = 0.6$.

(5) The equivalent lateral seismic force representing elastic response, V_e , shall be calculated in accordance with the following formula:

$$V_e = vSIFW$$

where v is the zonal velocity ratio determined in conformance with Subsection 2.5.1., except when $Z_v = 0$ and $Z_a > 0$ the value of Z_v shall be taken as 1 and v as 0.05 in all requirements of Subsection 4.1.9.

Table 4.1.9.1.A.

Seismic Response Factors

Forming Part of Sentence 4.1.9.1.(6)

| T | Z_a/Z_v | S |
|-----------------------|------------|-----------------------|
| ≤ 0.25 | > 1.0 | 4.2 |
| | 1.0 | 3.0 |
| | < 1.0 | 2.1 |
| > 0.25 but < 0.50 | > 1.0 | $4.2 - 8.4(T - 0.25)$ |
| | 1.0 | $3.0 - 3.6(T - 0.25)$ |
| | < 1.0 | 2.1 |
| ≥ 0.50 | All values | $1.5/(T)^{1/2}$ |
| Column 1 | 2 | 3 |

(6) The seismic response factor, S , shall conform to Table 4.1.9.1.A.

(7) The fundamental period, T , in Sentence (6) shall be determined by

- (a) the formula $0.1 N$ for any moment-resisting frame, or by the formulae $0.085(h_n)^{3/4}$ for a steel moment-resisting frame or $0.075(h_n)^{3/4}$ for a concrete moment-resisting frame, where the moment-resisting system is a frame which resists 100% of the required lateral forces and the frame is not enclosed by or adjoined by more rigid elements that would tend to prevent the frame from resisting lateral forces, and where h_n is in metres,
- (b) the formula $0.09 h_n/(D_s)^{1/2}$ for other structures, where h_n and D_s are in metres, and D_s = length of wall or braced frame which constitutes the main lateral-force-resisting system in the direction parallel to the applied forces; if the main lateral-force-resisting system does not have a well-defined length, then D shall be used in lieu of D_s , or
- (c) other established methods of mechanics; the value of V_e used for design shall be not less than 0.80 of the value computed using the period calculated in Clause (a) or (b).

(8) Except as provided for in Sentences 4.1.9.3.(1), (2) and (3), values of the force modification factor, R , shall conform to Table 4.1.9.1.B.

(9) For the purpose of applying Table 4.1.9.1.B.

- (a) a ductile moment-resisting frame shall mean a frame that is designed to resist the specified seismic forces and that, in addition, has adequate ductility or energy-absorptive capacity,
- (b) for combinations of different types of lateral-load-resisting systems acting in the same direction, R shall be taken as the lowest value of R corresponding to these systems except as given in Clause (c),
- (c) if one of the lateral-force-resisting systems of the structure is designed to take 100% of the lateral force, R can be selected as appropriate for the system; the components of the structure not considered to be part of the lateral-force-resisting system must be capable of resisting their gravity loads under seismically induced deformations calculated in accordance with Sentence 4.1.9.2.(2),
- (d) if it can be demonstrated through research or experience that the seismic performance of a structural system is at least equivalent to one of Cases 1-8, 10-14, 16-18 or 20-21 in Table 4.1.9.1.B., then such a structural system will qualify for a value of R corresponding to the equivalent case in that Table.

Table 4.1.9.1.B.

Force Modification Factors

Forming Part of Sentence 4.1.9.1.(8)

| Case | Type of Lateral Load Resisting System | R |
|--|---|-----|
| Steel Structures Designed and Detailed According to CAN/CSA-S16.1-M | | |
| 1 | ductile moment-resisting frame | 4.0 |
| 2 | ductile eccentrically braced frame | 4.0 |
| 3 | ductile steel plate shear wall | 4.0 |
| 4 | ductile braced frame | 4.0 |
| 5 | moment-resisting frame with nominal ductility | 3.0 |
| 6 | nominally ductile steel plate shear wall | 3.0 |
| 7 | braced frame with nominal ductility | 2.0 |
| 8 | ordinary steel plate shear wall | 2.0 |
| 9 | other lateral-force-resisting systems not defined in Cases 1 to 8 | 1.5 |
| Reinforced Concrete Structures Designed and Detailed According to CAN/CSA-A23.3-M | | |

| | | |
|----------|---|-----|
| 10 | ductile moment-resisting frame | 4.0 |
| 11 | ductile coupled wall | 4.0 |
| 12 | other ductile wall systems | 3.5 |
| 13 | moment-resisting frame with nominal ductility | 2.0 |
| 14 | wall with nominal ductility | 2.0 |
| 15 | other lateral-force-resisting systems not defined in Cases 10 to 14 | 1.5 |
| | Timber Structures Designed and Detailed According to CSA-O86.1 | |
| 16 | nailed shear panel with plywood, waferboard or OSB | 3.0 |
| 17 | concentrically braced heavy timber frame with ductile connections | 2.0 |
| 18 | moment-resisting wood frame with ductile connections | 2.0 |
| 19 | other systems not included in Cases 16 to 18 | 1.5 |
| | Masonry Structures Designed and Detailed According to CSA-S304.1 | |
| 20 | reinforced masonry wall with nominal ductility | 2.0 |
| 21 | reinforced masonry | 1.5 |
| 22 | unreinforced masonry | 1.0 |
| 23 | Other Lateral-force-resisting Systems not Defined in Cases 1 to 22 | 1.0 |
| Column 1 | 2 | 3 |

(10) The seismic importance factor, I , shall equal 1.5 for *post-disaster buildings*, 1.3 for schools and 1.0 for all other *buildings*.

(11) The foundation factor, F , shall conform to Table 4.1.9.1.C., except that the product FS need not exceed 3.0 where Z_a does not exceed Z_v and need not exceed 4.2 where Z_a is greater than Z_v .

Table 4.1.9.1.C.

Foundation Factors

Forming Part of Sentence 4.1.9.1.(11)

| Categories | Type and Depth of Rock and Soil Measured from the Foundation or Pile Cap Level | F |
|------------|---|-----|
| 1 | Rock, dense and very dense coarse-grained soils, very stiff and hard fine-grained soils; compact coarse-grained soils and firm and stiff fine-grained soils from 0 to 15 m deep | 1.0 |
| 2 | Compact coarse-grained soils, firm and stiff fine-grained soils with a depth greater than 15 m; very loose and loose coarse-grained soils and very soft and soft fine-grained soils from 0 to 15 m deep | 1.3 |
| 3 | Very loose and loose coarse-grained soils, with depth greater than 15 m | 1.5 |
| 4 | Very soft and soft fine-grained soils with depth greater than 15 m | 2.0 |
| Column 1 | 2 | 3 |

(12) The weight, W , of the *building* shall be calculated in accordance with the following formula:

$$W = \sum_{i=1}^n W_i$$

(13) The total lateral seismic force, V , shall be distributed as follows:

- (a) a portion, F_t , shall be assumed to be concentrated at the top of the *building* and equal to $0.07 TV$, except that F_t need not exceed $0.25 V$ and may be considered as zero where T does not exceed 0.7 s; the remainder, $V - F_t$, shall be distributed along the height of the *building*, including the top level, in accordance with the formula

$$F_x = (V - F_t) W_x h_x / \left(\sum_{i=1}^n W_i h_i \right), \text{ or}$$

- (b) by dynamic analysis, with the seismic effects scaled such that the base shear from the dynamic analysis equals V as given in Sentence 4.1.9.1.(4).

(14) The total shear in any horizontal plane shall be distributed to the various elements of the lateral-force-resisting system in proportion to their rigidities according to rational analysis, with due regard to the capacities and stiffnesses of the nonstructural elements and to the effects of torsion as required by Sentence 4.1.9.1.(28).

(15) Except as provided for in Sentence (16), parts of *buildings* as described in Tables 4.1.9.1.D. and 4.1.9.1.E. and their anchorage shall be designed to accommodate the deflections defined in Article 4.1.9.2., and for a lateral force, V_p , equal to $v.I.S_p.W_p$, distributed according to the distribution of mass of the element under consideration, where v is determined in conformance with Subsection 2.5.1., and I is the same importance factor as used for the *building*.

(16) For non *post-disaster buildings* in zones where Z_a and Z_v are equal to or less than 1.0 and F is equal to or less than 1.3, the requirements of Sentence (15) shall not apply to Table 4.1.9.1.E. or to cases 7, 8, and 9 of Table 4.1.9.1.D.

(17) Reserved

(18) All fasteners and anchors in a ductile connection, such as bolts, inserts, welds, or dowels, shall be capable of developing 3 times the yield load of the body of the connection.

(19) The values of S_p in Sentences (15) and (16) for mechanical/electrical components shall be equal to:

$$S_p = C_p \cdot A_r \cdot A_x$$

where

C_p = seismic coefficient for components of mechanical and electrical equipment as given Table 4.1.9.1.E.,

A_r = 1.0 for components that are both rigid and rigidly connected and for non-brittle pipes and ducts,

= 1.5 for components located on the ground that are flexible or flexibly connected except for non-brittle pipes and ducts,

= 3.0 for all other cases,

A_x = $1.0 + (h_x/h_n)$.

Table 4.1.9.1.D.

Values of S_p for Architectural Parts or Portions of Buildings

Forming Part of Sentence 4.1.9.1.(15)

| Category | Architectural Part or Portion of Building | Direction of Force | Value of S_p |
|----------|---|------------------------|----------------|
| 1 | All exterior and interior walls except those of Categories 2 and 3 | Normal to flat surface | 1.5 |
| 2 | Cantilever parapet and other cantilever walls except retaining walls | Normal to flat surface | 6.5 |
| 3 | Exterior and interior ornamentalations and appendages | Any direction | 6.5 |
| 4 | Connections/attachments for Categories 1, 2 and 3 | Any direction | 2.5 |
| | The body of ductile connections/ attachments | | |
| | All fasteners and anchors in the ductile connection, such as bolts, inserts, welds or dowels | | |
| | Non-ductile connections/ attachments | Any direction | (1) |
| | | Any direction | 15.0 |
| 5 | Floors and roofs acting as diaphragms ⁽²⁾ | Any direction | 0.7 |
| 6 | Towers, chimneys, smokestacks and penthouses when connected to or forming part of a building ⁽²⁾ | Any direction | 4.5 |
| 7 | Horizontally cantilevered floors, balconies, beams, etc. | Vertical | 4.5 |
| 8 | Suspended ceilings, light fixtures and other attachments to ceilings with independent vertical support | Any direction | 2.0 |
| 9 | Masonry veneer connections | | |
| | | Normal to flat surface | 5.0 |
| Col. 1 | 2 | 3 | 4 |

Notes to Table 4.1.9.1.D.:

(1) See Sentence 4.1.9.1.(18).

(2) See Sentence 4.1.9.1.(21).

(20) For the purpose of applying Sentence (19)

- (a) components that are both rigid and rigidly connected are defined as those having a fundamental period for the component and connection less than or equal to 0.06 s, and

- (b) flexible components or connections are defined as those having a fundamental period greater than 0.06 s.

Table 4.1.9.1.E.

Values of C_p for Mechanical/Electrical Parts or Portions of Buildings

Forming Part of Sentence 4.1.9.1.(15)

| Category | Mechanical/Electrical Part or Portion of Building | Direction of Force | Value of C_p |
|----------|--|--------------------|----------------|
| 1 | Machinery, fixtures, equipment, ducts, tanks and pipes (including contents) except as noted elsewhere in this table ⁽¹⁾ | Any direction | 1.0 |
| 2 | Machinery, fixtures, equipment, ducts, tanks and pipes (including contents) containing toxic or explosive materials, materials having a flash point below 38°C or fire fighting fluids. | Any direction | 1.5 |
| 3 | Flat bottom tanks (including contents) attached directly to a floor at or below grade within a building. | Any direction | 0.7 |
| 4 | Flat bottom tanks (including contents) attached directly to a floor at or below grade within a building containing toxic or explosive materials having a flash point below 38°C or fire fighting fluids. | Any direction | 1.0 |
| Column 1 | 2 | 3 | 4 |

(21) Floors and roofs acting as diaphragms shall be designed for a minimum force corresponding to a value of S_p equal to 0.7 applied to loads tributary from that storey, unless a greater force F_x is assigned to the level under consideration as in Sentences (13) and (14).

(22) When the mass of a tank plus contents is greater than 10% of the mass of the supporting floor, the lateral forces shall be determined by rational analysis.

(23) The overturning moment, M , at the base of the structure shall be multiplied by a reduction coefficient, J , where

(a) $J = 1$ where T is less than 0.5,

(b) $J = (1.1 - 0.2T)$ where T is not less than 0.5, but not more than 1.5, and

(c) $J = 0.8$ where T is greater than 1.5.

(24) The overturning moment M_x at any level x shall be

(a) multiplied by J_x where

$$J_x = J + (1 - J)(h_x/h_n)^3, \text{ and}$$

(b) distributed as required in Sentences (25), (26) and (27).

(25) The incremental changes in the design overturning moments, in the storey under consideration, shall be distributed to the various

resisting elements in the same proportion as the distribution of shears in the resisting system.

(26) Where other vertical members are provided which are capable of partially resisting the overturning moments, a redistribution may be made to these members if framing members of sufficient strength and stiffness to transmit the required loads are provided.

(27) Where a vertical-resisting element is discontinuous, the overturning moment carried by the lowest storey of that element shall be carried down as loads to the *foundation*.

(28) Torsional moments about a vertical axis of the *building* shall be calculated as

(a) for an analysis carried out in accordance with Clause 4.1.9.1.(13)(a), the torsional moments applied at each level throughout the *building* shall be derived for each of the following load cases considered separately

$$(i) T_x = F_x(1.5e_x + 0.1 D_{nx})$$

$$(ii) T_x = F_x(1.5e_x - 0.1 D_{nx})$$

$$(iii) T_x = F_x(0.5e_x + 0.1 D_{nx})$$

$$(iv) T_x = F_x(0.5e_x - 0.1 D_{nx})$$

where F_x is the lateral floor force at each level as given by Clause 4.1.9.1.(13)(a) and the term $0.1 D_{nx} F_x$ represents the accidental torsional moment applied at each level and where each element in the *building* is designed for the most severe effect of the above load cases, or

(b) the effects of accidental torsional moments applied at each level throughout the *building* shall be derived for each of the following load cases considered separately and shall be added to the effects of a three dimensional dynamic analysis

$$(i) T_x = + 0.1 D_{nx} F_x$$

$$(ii) T_x = - 0.1 D_{nx} F_x$$

and where each element in the *building* is designed for the most severe effect of the above load cases and F_x is the lateral floor force at each level as given by Clause 4.1.9.1.(13)(a).

(29) The *building* design shall take full account of the possible effects of setbacks.

4.1.9.2. Deflections

(1) Lateral deflections of a structure shall be calculated in accordance with accepted practice and based on the loads and requirements defined in this Section.

(2) Lateral deflections obtained from an elastic analysis using the loads given in Sentences 4.1.9.1.(13) and (14) and incorporating the effects of torsion shall be multiplied by R to give realistic values of anticipated deflections.

(3) The interstorey deflections based on the lateral deflections as calculated in Sentence (2) shall be limited to $0.01h_s$ for *post-disaster buildings* and $0.02h_s$ for all other *buildings*.

(4) All portions of the structure shall be designed to act as integral units in resisting horizontal forces, unless separated by adequate clearances which permit horizontal deflections of the structure consistent with values of deflections calculated in accordance with Sentence (2).

(5) The nonstructural components shall be designed so as not to transfer to the structural system any forces unaccounted for in the design, and any interaction of rigid elements such as walls and the structural system shall be designed so that the capacity of the structural system is not impaired by the action or failure of the rigid elements.

(6) Adjacent structures shall either be separated by the sum of their individual deflections as calculated in Sentence (2), or shall be connected to each other.

(7) The method of connection in Sentence (6) shall take into account the mass, stiffness, strength, ductility and anticipated motion of the connected *buildings* and the character of the connection.

(8) The deflections as calculated in Sentence (2) shall be used to account for sway effects due to seismic loading as required by Sentence 4.1.1.5.(2).

(9) The connected *buildings* in Sentence (6) shall be assumed to have the lowest R value of the *buildings* connected, unless the use of a higher value can be justified by rational analysis.

4.1.9.3. Special Provisions

(1) *Buildings* more than 3 storeys in *building height* in velocity- or acceleration-related seismic zones of 2 and higher shall have a structural system as described in Cases 1-8, 10-14, 16-18 or 20-21 in Table 4.1.9.1.B.

(2) For *buildings* more than 60 m in height with a structural system having $R = 2.0$ or $R = 1.5$ as determined from Table 4.1.9.1.B. or as determined from Clause 4.1.9.1.(9)(b), the value of V shall be increased by 50% in velocity-related seismic zones of 4 and higher.

(3) Elevated tanks plus full contents not supported by a *building*, shall be designed using $R = 1$ in the formula in Sentence 4.1.9.1.(4), with the conditions

(a) the minimum and maximum value of the product $S.I$ shall be taken as 1.5 and 3.0, respectively,

(b) the overturning moment reduction coefficient, J , as set forth in Sentence 4.1.9.1.(2) shall be 1.0, and

(c) the torsional requirements of Sentence 4.1.9.1.(28) shall apply.

(4) For *buildings* in velocity- or acceleration-related seismic zones of 2 and higher in which discontinuities in columns or shear walls occur, special design provisions shall be made to ensure that failure at the point of discontinuity will not occur before the capacity of the remaining portion of the structure has been realized.

(5) In velocity- or acceleration-related seismic zones of 2 and higher, reinforcement conforming to Clause 6.3.3. of CSA-S304.1, "Masonry Design for Buildings (Limit States Design)" shall be provided for masonry *construction* in

(a) *loadbearing* and lateral load-resisting masonry,

(b) masonry enclosing elevator shafts and stairways, or used as *exterior cladding*, and

(c) masonry *partitions*, except for *partitions* which

(i) do not exceed 200 kg/m^2 in weight, and

(ii) do not exceed 3 m in height and are laterally supported at the top.

4.1.9.4. Foundation Provisions

(1) *Foundations* shall be designed so that yielding will occur first in the superstructure and not the *foundations*, unless the design specifically provides otherwise.

(2) Except in velocity-related seismic Zone 0, individual *pile* footings, drilled piers and caissons shall be interconnected by ties in at least 2 directions.

(3) Ties in Sentence (2) shall be designed to carry by tension or compression a horizontal force equal to the greatest factored *pile* cap loading multiplied by a factor 0.5 *v*, but not exceeding 10% of the greatest factored *pile* cap load, unless it can be demonstrated that equivalent restraints can be provided by other means.

(4) Except in velocity-related seismic Zone 0, *piles* shall be connected to the *pile* cap or structure by reinforcement having sufficient anchorage to develop the yield strength of the reinforcement, and the top of the *piles* (below the *pile* cap) shall be reinforced to allow ductile behaviour if the design depends upon such action.

(5) Except in velocity-related seismic Zones 0 and 1, *basement* walls shall be designed to resist seismic lateral pressures from backfill or natural ground.

4.1.10. Other Effects

4.1.10.1. Loads on Guards

(1) The minimum specified horizontal load applied inward or outward at the top of every required *guard* shall be

- (a) 3.0 kN/m for *means of egress* in grandstands, stadia, bleachers and arenas,
- (b) a concentrated load of 1.0 kN applied at any point for access walkways to equipment platforms, contiguous stairs and similar areas where the gathering of many people is improbable, and
- (c) 0.75 kN/m or a concentrated load of 1.0 kN applied at any point, whichever governs, for locations other than described in Clauses (a) and (b).

(2) Individual elements within the *guard*, including solid panels and pickets, shall be designed for a concentrated load of 0.5 kN at any point in the element.

(3) The loads required in Sentence (2) need not be considered to act simultaneously with the loads provided for in Sentences (1) and (4).

(4) The minimum specified load applied vertically at the top of every required *guard* shall be 1.5 kN/m and need not be considered to act simultaneously with the horizontal load provided for in Sentence (1).

4.1.10.2. Loads on Vehicle Guardrails

(1) Vehicle guardrails for parking garages shall be designed for a concentrated load of 22 kN applied horizontally outward at any point 500 mm above the floor surface.

4.1.10.3. Loads on Walls Acting As Guards

(1) Where the floor elevation on one side of a wall, including a wall around a shaft, is more than 600 mm higher than the elevation of the floor or ground on the other side, the wall shall be designed to resist the appropriate lateral design loads prescribed elsewhere in this Section or 0.5 kPa, whichever produces the greatest effect.

4.1.10.4. Firewalls

(1) *Firewalls* shall be designed to resist the maximum effect due to

- (a) the appropriate lateral design loads prescribed elsewhere in this Section, or

(b) a factored lateral load of 0.5 kPa under fire conditions as described in Sentence (2).

(2) Under fire conditions, when the *fire-resistance rating* of the structure is less than that of the *firewall*

(a) lateral support shall be assumed to be provided by the structure on one side only, or

(b) another structural support system capable of resisting the loads imposed by a fire on either side of the *firewall* shall be provided.

4.1.10.5. Vibrations and Impact of Machinery and Equipment

(1) Where vibration effects, such as resonance and fatigue resulting from machinery or equipment, are likely to be significant, a dynamic analysis shall be carried out.

(2) The minimum specified load due to equipment, machinery or other objects that may produce impact shall be the sum of the weight of the equipment or machinery and its maximum lifting capacity, multiplied by an appropriate factor listed in Table 4.1.10.5.

Table 4.1.10.5.

Factors for the Calculation of Impact Loads

Forming Part of Sentence 4.1.10.5.(2)

| Impact Due to | Factor |
|---|--------|
| Operation of cab or radio operated cranes | 1.25 |
| Operation of pendant or hand operated cranes | 1.10 |
| Operation of elevators | (1) |
| Supports for light machinery, shaft or motor driven | 1.20 |
| Supports for reciprocating machinery (e.g. compressors) | 1.50 |
| Supports for power driven units (e.g. piston engines) | 1.50 |
| Column 1 | 2 |

Note to Table 4.1.10.5.

(1) See CAN/CSA-B44-M, Clauses 2.6.2. and 2.10.3.

(3) Crane runway structures shall be designed to resist a horizontal force applied normal to the top of the rails equal to not less than 20% of the sum of the weights of the lifted load and the crane trolley (excluding other parts of the crane).

(4) The force described in Sentence (3) shall be equally distributed on each side of the runway and shall be assumed to act in either direction.

(5) Crane runway structures shall be designed to resist a horizontal force applied parallel to the top of the rail equal to not less than 10% of the maximum wheel loads of the crane.

4.1.10.6. Resonances and Sway Forces

(1) Where the fundamental vibration frequency of a structural system supporting an *assembly occupancy* used for rhythmic activities, such as dancing, concerts, jumping exercises or gymnastics, is less than 6 Hz, the effects of resonance shall be investigated by means of a dynamic analysis.

(2) The floor assembly and other structural elements that support fixed seats in any *building* used for *assembly occupancies* to accommodate large numbers of people at one time, such as grandstands, stadia and *theatre* balconies, shall be designed to resist a horizontal force equal to not less than 0.3 kN for each metre length of seats acting parallel to each row of seats, and not less than 0.15 kN for each metre length

of seat acting at right angles to each row of seats, assuming such forces to be acting independently of each other.

4.1.10.7. Bleachers

(1) Bleachers shall be checked by the erector after erection to ensure that all structural members including bracing specified in the design have been installed.

(2) Telescopic bleachers shall be provided with locking devices to ensure stability while in use.

4.1.10.8. Anchor Systems on Building Exterior

(1) Where maintenance and window cleaning operations are intended to be carried out on the exterior of a *building* described in Article 2.1.1.2, anchor systems shall be provided where any portion of the roof is more than 8 m above adjacent ground level.

(2) Except as provided in Sentence (3), the anchor systems in Sentence (1) shall be designed, installed and tested in conformance with CSA Standard Z91, "Safety Code for Window Cleaning Operations".

(3) Other anchor systems may be used where such systems provide an equal level of safety.

(4) The anchor system material shall be made of stainless steel, aluminum, or other corrosion resistant base material, or from steel that is hot dipped galvanised, in accordance with CSA Standard G164-M81, "Hot Dip Galvanising of Irregularly Shaped Articles".

Section 4.2. Foundations

4.2.1. General

4.2.1.1. Application

(1) This Section applies to *excavations* and *foundation* systems for *buildings*.

4.2.2. Subsurface Investigations and Reviews

4.2.2.1. Subsurface Investigation

(1) A *subsurface investigation* shall be carried out, which shall include *groundwater* conditions.

4.2.2.2. Reserved

4.2.2.3. Review

(1) A review shall be carried out by the *designer* or by another suitably qualified person to ascertain that the subsurface conditions are consistent with the design and that *construction* is carried out in accordance with the design and good engineering practice.

(2) The review required in Sentence (1) shall be carried out

(a) on a continuous basis

(i) during the *construction* of all *deep foundation units* with all pertinent information recorded for each unit, and

(ii) during the installation and removal of retaining structures and related backfilling operations, and

(b) as required, unless otherwise directed by the *chief building official*

(i) in the *construction* of all *shallow foundation units*, and

(ii) in excavating, dewatering and other related works.

4.2.2.4. Altered Subsurface Condition

(1) Where, during *construction*, the *soil*, *rock* or *groundwater* is found not to be of the type or in the condition used in design, and as indicated on the drawings, the design shall be reassessed by the *designer*.

(2) Where, during *construction*, climatic or any other conditions have changed the properties of the *soil*, *rock* or *groundwater*, the design shall be reassessed by the *designer*.

4.2.3. Materials Used in Foundations

4.2.3.1. Wood

(1) Wood used in *foundations* or in support of *soil* or *rock* shall conform with the appropriate requirements of Subsection 4.3.1.

4.2.3.2. Preservation Treatment of Wood

(1) Wood exposed to *soil* or air above the lowest anticipated *groundwater* table shall be treated with preservative in conformance with CAN/CSA-O80-M, "Wood Preservation" and the requirements of the appropriate commodity standard as follows:

(a) CSA-O80.2-M, "Preservative Treatment of Lumber, Timber, Bridge Ties and Mine Ties by Pressure Processes",

(b) CSA-O80.3-M, "Preservative Treatment of Piles by Pressure Processes", or

(c) CSA-O80.15-M, "Preservative Treatment of Wood for Building Foundation Systems, Basements and Crawl Spaces by Pressure Processes".

(2) Where timber has been treated as required in Sentence (1), it shall be cared for as provided in AWP Standard M4, "Care of Preservative Treated Wood Products" as revised by Clause 6 of CAN/CSA-O80, "Wood Preservation".

4.2.3.3. Plain and Reinforced Masonry

(1) Plain or reinforced masonry used in *foundations* or in support of *soil* or *rock* shall conform with the requirements of Subsection 4.3.2.

4.2.3.4. Prevention of Deterioration of Masonry

(1) Where plain or reinforced masonry in *foundations* or in structures supporting *soil* or *rock* may be subject to conditions conducive to deterioration, protection shall be provided to prevent such deterioration.

4.2.3.5. Concrete

(1) Plain, reinforced or prestressed concrete used in *foundations* or in support of *soil* or *rock* shall conform with the requirements of Subsection 4.3.3.

4.2.3.6. Chemical Attack of Concrete

(1) Where concrete in *foundations* may be subject to chemical attack, it shall be treated in conformance with the requirements in CAN3-A23.1, "Concrete Materials and Methods of Concrete Construction".

4.2.3.7. Steel

(1) Steel used in *foundations* or in support of *soil* or *rock* shall conform with the appropriate requirements of Subsections 4.3.3. or 4.3.4., unless otherwise specified in this Section.

4.2.3.8. Steel Piles

(1) Where steel piles are used in *deep foundations* and act as permanent load-carrying members, the steel shall conform with one of the following standards:

- (a) CAN3-G40.21-M, "Structural Quality Steels",
- (b) ASTM A252, "Welded and Seamless Steel Pipe Piles",
- (c) ASTM A283/A283M, "Low and Intermediate Tensile Strength Carbon Steel Plates",
- (d) ASTM A570/A570M, "Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality", or
- (e) ASTM A611, "Steel Sheet, Carbon, Cold-Rolled Sheet, Structural Quality".

4.2.3.9. High Strength Steel Tendons

(1) Where high strength steel is used for tendons in anchor systems used for the permanent support of a *foundation* or in the erection of temporary support of *soil* or *rock* adjacent to an *excavation*, it shall conform with the requirements of CAN3-A23.1, "Concrete Materials and Methods of Concrete Construction".

4.2.3.10. Corrosion of Steel

(1) Where conditions are corrosive to steel, adequate protection of exposed steel shall be provided.

4.2.4. Design Requirements**4.2.4.1. Design Basis**

(1) The design of *foundations*, *excavations* and *soil*- and *rock*-retaining structures shall be based on a *subsurface investigation* carried out by a person competent in this field of work, and one of the following:

- (a) application of generally accepted geotechnical and civil engineering principles by a person especially qualified in this field of work as provided in this Section and other Sections of Part 4,
- (b) established local practice where such practice includes successful experience both with *soils* and *rocks* of similar type and condition and with a *foundation* or *excavation* of similar type, *construction* method, size and depth, or
- (c) in situ testing of *foundation units* such as the load testing of *piles*, anchors or footings carried out by a person competent in this field of work.

4.2.4.2. Subsurface Investigation

(1) A *subsurface investigation* shall be carried out to the depth and extent to which the *building* or *excavation* will significantly change the stress in the *soil* or *rock*, or to such a depth and extent as to provide all the necessary information for the design and *construction* of the *excavation* or the *foundations*.

4.2.4.3. Identification

(1) The identification and classification of *soil*, *rock* and *groundwater* and descriptions of their engineering and physical properties shall be in accordance with a widely accepted system.

4.2.4.4. Loads on Foundations

(1) The *foundation* of a *building* shall be capable of resisting all loads as stipulated in Section 4.1., in accordance with limit states design in Subsection 4.1.3. or working stress design in Subsection 4.1.4.

4.2.4.5. Differential Movements

(1) The *foundation* of a *building* shall be proportioned so that the estimated total and differential movements of the *foundation* are not greater than the movements that the *building* is designed to accommodate.

4.2.4.6. Depth of Foundations

(1) Except as permitted in Sentence (2), the *bearing surface* of a *foundation* shall be below the level of potential damage, including damage resulting from *frost action*, and the *foundation* shall be designed to prevent damage resulting from *adfreezing* and frost jacking.

(2) The *bearing surface* of a *foundation* need not be below the level of potential damage from frost where the *foundation*

- (a) is designed against *frost action*, or
- (b) overlies material not susceptible to *frost action*.

4.2.4.7. Sloping Ground

(1) Where a *foundation* is to rest on, in or near sloping ground, this particular condition shall be provided for in the design.

4.2.4.8. Eccentric and Inclined Loads

(1) Where there is eccentricity or inclination of loading in *foundation units*, this effect shall be fully investigated and provided for in the design.

4.2.4.9. Dynamic Loading

(1) Where dynamic loading conditions apply, the effects shall be assessed by a special investigation of these conditions and provided for in the design.

4.2.4.10. Hydrostatic Uplift

(1) Where a *foundation* or any part of a *building* is subject to hydrostatic uplift the effects shall be provided for in the design.

4.2.4.11. Groundwater Level Charge

(1) Where proposed *construction* will result in a temporary or permanent change in the *groundwater level*, the effects of this change on adjacent property shall be fully investigated and provided for in the design.

4.2.4.12. Permafrost

(1) Where conditions of permafrost are encountered or proven to exist, the design of the *foundation* shall be based upon analysis of these conditions by a person especially qualified in that field of work.

4.2.4.13. Swelling and Shrinking Soils

(1) Where swelling or shrinking *soils*, in which movements resulting from moisture content changes may be sufficient to cause damage to a structure, are encountered or known to exist, such a condition shall be fully investigated and provided for in the design.

4.2.4.14. Expanding and Deteriorating

(1) Where *rock* which expands or deteriorates when subjected to unfavourable environmental conditions or to stress release is known to

exist such condition shall be fully investigated and provided for in the design.

4.2.4.15. Construction on Fill

(1) *Buildings* may be placed on *fill* if it can be shown by *subsurface investigation* that

- (a) the *fill* is or can be made capable of safely supporting the *building*,
- (b) detrimental movement of the *building* or services leading to the *building* will not occur, and
- (c) explosive gases can be controlled or do not exist.

4.2.4.16. Structural Design

(1) The structural design of the *foundation* of a *building*, the procedures and *construction* practices shall conform with the appropriate Sections of this Code unless otherwise specified in this Section.

4.2.5. Excavations

4.2.5.1. Design of Excavations

(1) The design of *excavations* and of supports for the sides of *excavations* shall conform with the requirements of Subsection 4.2.4. and with this Subsection.

4.2.5.2. Excavation Construction

(1) Every *excavation* shall be undertaken in such a manner as to prevent movement which would cause damage to adjacent property, existing structures, utilities, roads and sidewalks at all phases of *construction*.

(2) Material shall not be placed nor shall equipment be operated or placed in or adjacent to an *excavation* in a manner that may endanger the integrity of the *excavation* or its supports.

4.2.5.3. Supported Excavations

(1) The sides of an *excavation* in *soil* or *rock* shall be supported by a retaining structure conforming with the requirements of Articles 4.2.5.1. and 4.2.5.2., except as permitted in Article 4.2.5.4.

4.2.5.4. Unsupported Excavations

(1) The sides of an *excavation* in *soil* or *rock* may be unsupported where a design is prepared by a person especially qualified in this field of work in conformance with the requirements of Articles 4.2.5.1. and 4.2.5.2.

4.2.5.5. Control of Water Around Excavations

(1) Surface water, all *groundwater*, *perched* and in particular *artesian groundwater* shall be kept under control at all phases of *excavation* and *construction*.

4.2.5.6. Loss of Ground

(1) At all phases of *excavation* and *construction*, loss of ground due to water or any other cause shall be prevented.

4.2.5.7. Protection and Maintenance at Excavations

(1) All sides of an *excavation*, supported and unsupported, shall be continuously maintained and protected from possible deterioration by *construction* activity or by the action of frost, rain and wind.

4.2.5.8. Backfilling

(1) Where an *excavation* is backfilled, the backfill shall be placed so as to

- (a) provide lateral support to the *soil* adjacent to the *excavation*, and
- (b) prevent detrimental movements.

(2) The material used as backfill or *fill* supporting a footing, *foundation* or a floor on *grade* shall be of a type that is not subject to detrimental volume change with changes in moisture content and temperature.

4.2.6. Shallow Foundations

4.2.6.1. Design of Shallow Foundations

(1) The design of *shallow foundations* shall be in conformance with Subsection 4.2.4. and the requirements of this Subsection.

4.2.6.2. Support of Shallow Foundations

(1) Where a *shallow foundation* is to be placed on *soil* or *rock*, the *soil* or *rock* shall be cleaned of loose and unsound material and shall be adequate to support the *design load* taking into account temperature, precipitation, *construction* activities and other factors which may lead to changes of the properties of *soil* or *rock*.

4.2.6.3. Incorrect Placement of Shallow Foundations

(1) Where a *shallow foundation unit* has not been placed or located as indicated on the drawings

- (a) the error shall be corrected, or
- (b) the design of the *foundation unit* shall be recalculated for the altered conditions by the *designer*.

4.2.6.4. Damaged Shallow Foundations

(1) Where a *shallow foundation unit* is damaged

- (a) it shall be repaired, or
- (b) the *design* of the *foundation unit* shall be recalculated for the damaged condition by the *designer*.

4.2.7. Deep Foundations

4.2.7.1. General

(1) A *deep foundation unit* shall provide support for a *building* by transferring loads by end-bearing to a competent stratum at considerable depth below the structure, or by mobilizing resistance by adhesion or friction, or both, in the *soil* or *rock* in which it is placed.

4.2.7.2. Design for Deep Foundations

(1) *Deep foundation units* shall be designed in conformance with Subsection 4.2.4. and this Subsection.

(2) Where *deep foundation units* are load tested, as required in Clause 4.2.4.1.(1)(c), the determination of the number and type of load

test and the interpretation of the results shall be carried out by a person especially qualified in this field of work.

(3) Where *deep foundation units* are not load tested as outlined in Clause 4.2.4.1.(1)(c), and where well established local practice as outlined in Clause 4.2.4.1.(1)(b) is not applicable, the design shall be carried out in conformance with Clause 4.2.4.1.(1)(a).

(4) The design of *deep foundations* shall be determined on the basis of geotechnical considerations taking into account

- (a) the method of installation,
- (b) the degree of inspection,
- (c) the spacing of *foundation units* and group effects,
- (d) other requirements of this Subsection, and
- (e) the appropriate structural requirements of Section 4.1. and Subsections 4.3.1., 4.3.3. and 4.3.4.

(5) The portion of a *deep foundation unit* permanently in contact with *soil* or *rock* shall be structurally designed as a laterally supported compression member.

(6) The portion of a *deep foundation unit* which is not permanently in contact with *soil* or *rock* shall be structurally designed as a laterally unsupported compression member.

(7) The structural design of prefabricated *deep foundation units* shall allow for all stresses resulting from driving, handling and testing.

4.2.7.3. Tolerance in Alignment and Location

(1) Permissible deviations from the design alignment and the location of the top of *deep foundation units* shall be determined by design analysis, and shall be indicated on the drawings.

4.2.7.4. Incorrect Alignment and Location

(1) Where a *deep foundation unit* has not been placed within the permissible deviations referred to in Article 4.2.7.3., the condition of the *foundation* shall be assessed by the person responsible for the design, any necessary changes made and action taken as required.

4.2.7.5. Installation of Deep Foundations

(1) *Deep foundation units* shall be installed in such a manner as not to impair

- (a) the strength of the *deep foundation units* and the properties of the *soil* or *rock* on or in which they are placed beyond the calculated or anticipated limits,
- (b) the integrity of previously installed *deep foundation units*, or
- (c) the integrity of neighbouring structures and services.

4.2.7.6. Damaged Deep Foundation Units

(1) Where inspection shows that a *deep foundation unit* is damaged or not consistent with design or good engineering practice

- (a) such a unit shall be reassessed by the *designer*, and
- (b) any necessary changes shall be made and action taken as required.

4.2.8. Special Foundations

4.2.8.1. General

(1) Where special *foundation* systems are used, such systems shall conform to Subsection 4.2.4.

4.2.8.2. Use of Existing Foundations

(1) Existing *foundations* may be used to support new or altered *buildings* provided they comply with all pertinent requirements of this Section.

Section 4.3. Design Requirements for Structural Materials

4.3.1. Wood

4.3.1.1. Design Basis for Wood

(1) *Buildings* and their structural members made of wood shall conform to CAN/CSA-O86.1-M, "Engineering Design in Wood (Limit States Design)".

4.3.1.2. Glue-Laminated Members

(1) Glued-laminated members shall be fabricated in plants conforming to CAN/CSA-O177-M, "Qualification Code for Manufacturers of Structural Glued-Laminated Timber".

4.3.1.3. Termites

(1) In areas known to be infested by termites, the requirements in Articles 9.3.2.9., 9.12.1.1. and 9.15.5.1. shall apply.

4.3.2. Plain and Reinforced Masonry

4.3.2.1. Design Basis for Plain and Reinforced Masonry

(1) *Buildings* and their structural members made of plain and reinforced masonry shall conform to

- (a) CAN3-S304-M, "Masonry Design for Buildings", or
- (b) CSA-S304.1, "Masonry Design for Buildings" (Limit States Design).

4.3.3. Plain, Reinforced and Prestressed Concrete

4.3.3.1. Design Basis for Plain, Reinforced and Prestressed Concrete

(1) *Buildings* and their structural members made of plain, reinforced or prestressed concrete shall conform to CAN/CSA-A23.3-M, "Design of Concrete Structures for Buildings".

4.3.4. Steel

4.3.4.1. Design Basis for Structural Steel

(1) *Buildings* and their structural members made of structural steel shall conform to CAN/CSA-S16.1-M, "Limit States Design of Steel Structures".

4.3.4.2. Design Basis for Cold Formed Steel

(1) *Buildings* and their structural members made of cold formed steel shall conform to CAN/CSA-S136-M, "Cold Formed Steel Structural Members".

4.3.5. Aluminum**4.3.5.1. Design Basis for Aluminum**

(1) *Buildings* and their structural members made of aluminum shall conform to CAN3-S157-M, "Strength Design in Aluminum".

4.3.6. Glass**4.3.6.1. Design Basis for Glass**

(1) Glass shall be designed in conformance with CAN/CGSB-12.20-M, "Structural Design of Glass for Buildings".

Section 4.4. Design Requirements for Special Structures**4.4.1. Air-Supported Structures****4.4.1.1. Design Basis for Air-Supported Structures**

(1) The structural design of *air-supported structures* shall conform to CAN3-S367-M, "Air-Supported Structures".

4.4.2. Parking Structures**4.4.2.1. Design Basis for Parking Structures**

(1) Parking structures shall be designed in conformance with CSA-S413, "Parking Structures".

4.4.3. Guards Over Retaining Walls**4.4.3.1. Guards Over Retaining Walls**

(1) Every retaining wall which is a designated structure in Subsection 2.1.2. shall be protected by *guards* on all open sides where the public has access to open space at the top of the retaining wall.

Part 5

Wind, Water and Vapour Protection

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Part 5

Wind, Water and Vapour Protection

Section 5.1. General**5.1.1. Scope****5.1.1.1. Scope**

(1) The scope of this Part shall be as described in Section 2.1.

5.1.2. Application**5.1.2.1. Separation of Environments**

(1) This Part applies to

(a) the control of condensation in and on, and the transfer of heat, air and moisture through *building* elements and interfaces between *building* elements that separate

(i) interior space from exterior space,

(ii) interior space from the ground, and

(iii) environmentally dissimilar interior spaces, and

(b) site conditions that may affect moisture loading on *building* elements that separate interior space from exterior space, and interior space from the ground.

5.1.3. Definitions**5.1.3.1. Reserved****5.1.4. Environmental Separation Requirements****5.1.4.1. Resistance to Environmental Loads**

(1) *Building* components and assemblies that separate dissimilar environments shall

(a) be designed to have sufficient capacity and integrity to resist or accommodate the environmental loads and effects of those loads, having regard to

(i) the intended use of the *building*, and

(ii) the environment to which the components and assemblies are subject, and

(b) satisfy the requirements of this Part.

5.1.4.2. Resistance to Deterioration

(1) Except as provided in Sentence (2), materials that comprise *building* components and assemblies that separate dissimilar environments shall be

(a) compatible with adjoining materials, and

(b) resistant to any mechanisms of deterioration which would be reasonably expected, given the nature, function and exposure of the materials.

(2) Material compatibility and deterioration resistance are not required where it can be shown that incompatibility or uncontrolled deterioration will not adversely affect any of

- (a) the health or safety of *building* users,
- (b) the intended use of the *building*, or
- (c) the operation of *building* services.

5.1.5. Other Requirements

5.1.5.1. Requirements in Other Parts of the Code

(1) Acoustical, structural and fire safety requirements shall comply with other Parts of the Code.

Section 5.2. Loads and Procedures

5.2.1. Environmental Loads

5.2.1.1. Exterior Environmental Loads

(1) Except as provided in Sentences (2) and (3), climatic loads shall be determined according to Section 2.5.

(2) Except as provided in Sentence (3), below ground exterior environmental loads not described in Section 2.5. shall be determined from existing geological and hydrological data or from site tests.

(3) Where local design and construction practice has shown *soil* temperature analysis to be unnecessary, *soil* temperatures need not be determined.

5.2.1.2. Interior Environmental Loads

(1) Interior environmental loads shall be derived from the intended use of the space.

5.2.2. Procedures

5.2.2.1. Calculations

(1) Heat, air and moisture transfer calculations shall conform to good engineering practice such as described in the ASHRAE Fundamentals Handbook 1993.

(2) For the purposes of any analysis conducted to indicate conformance to the thermal resistance levels required in Article 5.3.1.2., *soil* temperatures shall be determined based on annual average *soil* temperature, seasonal amplitude of variation and attenuation of variation with depth.

(3) Wind load calculations shall conform to Subsection 4.1.8.

Section 5.3. Heat Transfer

5.3.1. Thermal Resistance of Assemblies

5.3.1.1. Required Resistance to Heat Transfer

(1) Except as provided in Sentence (2), where a *building* component or assembly will be subjected to an intended temperature differential, the component or assembly shall include materials to resist heat transfer in accordance with the remainder of this Subsection.

(2) The installation of materials to resist heat transfer in accordance with the remainder of this Subsection is not required where it can be shown that uncontrolled heat transfer will not adversely affect any of

- (a) the health or safety of *building* users,
- (b) the intended use of the *building*, or
- (c) the operation of *building* services.

5.3.1.2. Properties to Resist Heat Transfer

(1) Materials and components installed to provide the required resistance to heat transfer shall provide sufficient resistance, for the interior and exterior design temperatures

- (a) to minimize surface condensation on the component or assembly,
- (b) in conjunction with other materials and components in the assembly, to minimize condensation within the component or assembly, and
- (c) in conjunction with systems installed for space conditioning, to meet the interior design thermal conditions for the intended occupancy.

(2) Except as provided in Sentence (3), where materials or components are installed to provide the required resistance to heat transfer and are covered in the scope of the standards listed below, the materials and components shall conform to the requirements of the respective standards

- (a) CAN/CGSB-12.8-M, "Insulating Glass Units",
- (b) CAN/CGSB-51.20-M, "Thermal Insulation, Polystyrene, Boards and Pipe Covering",
- (c) CGSB 51-GP-21M, "Thermal Insulation, Urethane and Isocyanurate, Unfaced",
- (d) CAN/CGSB-51.23, "Spray-Applied Rigid Polyurethane Cellular Plastic Thermal Insulation",
- (e) CAN/CGSB-51.25-M, "Thermal Insulation, Phenolic, Faced",
- (f) CAN/CGSB-52.26-M, "Thermal Insulation, Urethane and Isocyanurate, Boards, Faced",
- (g) CGSB 51-GP-27-M, "Thermal Insulation, Polystyrene, Loose Fill",
- (h) CGSB 51-GP-60-M, "Cellulose Fibre Loose Fill Thermal Insulation",
- (i) CAN/CGSB-82.1-M, "Sliding Doors",
- (j) CAN/CGSB-82.5-M, "Insulated Steel Doors",
- (k) CSA A101-M, "Thermal Insulation, Mineral Fibre, for Buildings", or
- (l) CAN/CSA-A247-M, "Insulating Fibreboard".

(3) The requirements for *flame-spread ratings* contained in the standards listed in Sentence (2) need be applied only as required in Part 3.

(4) Except as provided in Sentence (5), all metal-framed glazed assemblies separating interior *conditioned space* from interior unconditioned space or exterior space shall incorporate a thermal break to minimize condensation.

(5) Metal-framed glazed assemblies need not comply with Sentence (4) where these assemblies are

- (a) storm windows or doors, or
- (b) windows or doors which are required to have a *fire-resistance rating*.

5.3.1.3. Location and Installation of Materials Providing Thermal Resistance

(1) Where a material required by Article 5.3.1.1. is intersected by a *building* assembly, penetrated by a high conductance component or interrupted by expansion, control or construction joints, and where condensation is likely to occur at these intersections, penetrations or interruptions, materials providing thermal resistance shall be positioned so as to minimize condensation at these locations.

(2) Materials providing required thermal resistance shall have sufficient inherent resistance to air flow or be positioned in the assembly so as to prevent convection air flow through and around the material.

(3) Spray-in-place polyurethane insulation shall be installed in accordance with the requirements of CAN/CGSB-51.39, "Spray Application of Rigid Polyurethane Cellular Plastic Thermal Insulation for Building Construction".

Section 5.4. Air Leakage

5.4.1. Air Barrier Systems

5.4.1.1. Required Resistance to Air Leakage

(1) Except as provided in Sentence (2), where a *building* component or assembly separates interior *conditioned space* from exterior space, interior space from the ground, or environmentally dissimilar interior spaces, the component or assembly shall contain an *air barrier system*.

(2) An *air barrier system* is not required where it can be shown that uncontrolled air leakage will not adversely affect any of

- (a) the health or safety of *building* users,
- (b) the intended use of the *building*, or
- (c) the operation of *building* services.

5.4.1.2. Air Barrier System Properties

(1) Except as provided in Sentence (2), sheet and panel type materials intended to provide the principal resistance to air leakage shall have an air leakage characteristic not greater than $0.02 \text{ L}/(\text{s} \cdot \text{m}^2)$ measured at an air pressure difference of 75 Pa.

(2) The air leakage limit specified in Sentence (1) is permitted to be increased where it can be shown that the higher rate of leakage will not adversely affect any of

- (a) the health or safety of *building* users,
- (b) the intended use of the *building*, or
- (c) the operation of *building* services.

(3) Except as provided in Sentence (6), where components of the *air barrier system* are covered in the scope of the standards listed below, the components shall conform to the requirements of the respective standards

- (a) CAN/CGSB-63.14-M, "Plastic Skylights",

- (b) CAN/CGSB-82.1-M, "Sliding Doors",

- (c) CAN/CGSB-82.5-M, "Insulated Steel Doors", or

- (d) CAN/CSA-A440-M, "Windows".

(4) Skylights not covered in the scope of CAN/CGSB-63.14-M, "Plastic Skylights" shall conform to the performance requirements of that standard.

(5) Except as provided in Sentence (6), windows and sliding doors covered in the scope of CAN/CGSB-82.1-M, "Sliding Doors", and CAN/CSA-A440-M, "Windows", and installed as components in an *air barrier system* shall conform at least to the airtightness requirements in CAN/CSA-A440.1-M, "User Selection Guide to CAN/CSA-A440-M, Windows".

(6) Where a wired glass assembly is installed as a component in an *air barrier system* in a required *fire separation*, the assembly need not conform to CAN/CSA-A440-M, "Windows" or CAN/CSA-A440.1-M, "User Selection Guide to CAN/CSA-A440-M, Windows".

- (7) The *air barrier system* shall be continuous

- (a) across construction, control and expansion joints,
- (b) across junctions between different *building* assemblies, and
- (c) around penetrations through the *building* assembly.

(8) An *air barrier system* installed in an assembly subject to wind load, and other elements of the separator that will be subject to wind load, shall transfer that load to the structure.

(9) Except as provided in Sentence (11), an *air barrier system* installed in an assembly subject to wind load shall be designed and constructed to resist 100 per cent of the specified wind load as determined in Subsection 4.1.8.

(10) Except as provided in Sentence (11), deflections of the *air barrier system* and other elements of the separator that will be subject to wind load shall not adversely affect non-structural elements at 1.5 times the specified wind load.

(11) Where it can be shown by test or analysis that an *air barrier system* installed in an assembly will be subject to less than 100 per cent of the specified wind load

- (a) the *air barrier system* is permitted to be designed and constructed to resist 1.5 times the lesser load, and
- (b) deflections of the *air barrier system* and other elements of the separator that will be subject to wind load shall not adversely affect non-structural elements at 1.5 times the lesser load.

Section 5.5. Vapour Diffusion

5.5.1. Vapour Barriers

5.5.1.1. Required Vapour Barrier

(1) Except as provided in Sentence (2), where a *building* component or assembly will be subjected to a temperature differential and a differential in water vapour pressure, the component or assembly shall include a *vapour barrier*.

(2) A *vapour barrier* is not required where it can be shown that uncontrolled vapour diffusion will not adversely affect any of

- (a) the health or safety of *building* users,

- (b) the intended use of the *building*, or
- (c) the operation of *building* services.

5.5.1.2. Vapour Barrier Properties and Installation

(1) The *vapour barrier* shall have sufficiently low permeance and shall be positioned in the *building* component or assembly so as to

- (a) minimize moisture transfer by diffusion, to surfaces within the assembly that would be cold enough to cause condensation at the design temperature and humidity conditions, or
- (b) reduce moisture transfer by diffusion, to surfaces within the assembly that would be cold enough to cause condensation at the design temperature and humidity conditions, to a rate that will not allow sufficient accumulation of moisture to cause deterioration or otherwise adversely affect any of
 - (i) the health or safety of *building* users,
 - (ii) the intended use of the *building*, or
 - (iii) the operation of *building* services.

(2) Where materials installed to provide the required resistance to vapour diffusion are covered in the scope of the standards listed below, the materials shall conform to the requirements of the respective standards

- (a) CAN/CGSB-51.33-M, "Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction", and
- (b) CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet for Use in Building Construction".

(3) Coatings applied to gypsum wallboard to provide required resistance to vapour diffusion shall be shown to conform with the requirements of Sentence (1) when tested in accordance with CAN/CGSB-1.501-M, "Method for Permeance of Coated Wallboard".

(4) Coatings applied to materials other than gypsum wallboard to provide required resistance to vapour diffusion shall be shown to conform with the requirements of Sentence (1) when tested in accordance with ASTM E96, "Test Methods for Water Vapour Transmission of Materials" by the desiccant method (dry cup).

Section 5.6. Precipitation

5.6.1. Protection from Precipitation

5.6.1.1. Required Protection from Precipitation

(1) Except as provided in Sentence (2), where a *building* component or assembly is exposed to precipitation, the component or assembly shall

- (a) minimize ingress of precipitation into the component or assembly, and
- (b) prevent ingress of precipitation into interior space.

(2) Protection from ingress of precipitation is not required where it can be shown that such ingress will not adversely affect any of

- (a) the health or safety of *building* users,
- (b) the intended use of the *building*, or

- (c) the operation of *building* services.

5.6.1.2. Protective Material and Component Properties

(1) Where materials or components applied to sloped or horizontal assemblies are installed to provide required protection from precipitation and are covered in the scope of the standards listed below, the materials or components shall conform to the requirements of the respective standards

- (a) ASTM-D2178, "Asphalt Glass Felt Used in Roofing and Waterproofing",
- (b) CAN/CGSB-37.4-M, "Fibrated, Cutback Asphalt, Lap Cement for Asphalt Roofing",
- (c) CAN/CGSB-37.5-M, "Cutback Asphalt Plastic Cement",
- (d) CAN/CGSB-37.8-M, "Asphalt, Cutback, Filled, for Roof Coating",
- (e) CGSB 37-GP-9Ma, "Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing",
- (f) CGSB 37-GP-21M, "Tar, Cutback, Fibrated, for Roof Coating",
- (g) CAN/CGSB-37.50-M, "Hot Applied, Rubberized Asphalt for Roofing and Waterproofing",
- (h) CGSB 37-GP-52M, "Roofing and Waterproofing Membrane, Sheet Applied, Elastomeric",
- (i) CGSB 37-GP-54M, "Roofing and Waterproofing Membrane, Sheet Applied, Flexible, Polyvinyl Chloride",
- (j) CGSB 37-GP-56M, "Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing",
- (k) CGSB 37-GP-64M, "Mat Reinforcing, Fibrous Glass, for Membrane Waterproofing Systems and Built-Up Roofing",
- (l) CGSB 37-GP-6M, "Sheets, Thermosetting Polyester Plastics, Glass Fibre Reinforced",
- (m) CAN2-51.32-M, "Sheathing, Membrane, Breather Type",
- (n) CAN/CGSB-63.14-M, "Plastic Skylights",
- (o) CSA A123.1-M, "Asphalt Shingles Surfaced with Mineral Granules",
- (p) CSA A123.2-M, "Asphalt Coated Roofing Sheets",
- (q) CSA A123.3-M, "Asphalt or Tar Saturated Roofing Felt",
- (r) CSA A123.4-M, "Bitumen for Use in Construction of Built-up Roof Coverings and Dampproofing and Waterproofing Systems",
- (s) CSA A123.5-M, "Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules",
- (t) CSA A123.17, "Asphalt-Saturated Felted Glass-Fibre Mat for Use in Construction of Built-up Roofs",
- (u) CSA-A220.0-M, "Performance of Concrete Roof Tiles",
- (v) CSA-0118.1-M, "Western Red Cedar Shingles and Shakes" not less than No. 2 grade, or
- (w) CSA-0118.2-M, "Eastern White Cedar Shingles" not less than B grade.

(2) Skylights that are not covered in the scope of CAN/CGSB-63.14-M, "Plastic Skylights" shall conform to the performance requirements of that standard.

(3) Except as provided in Sentence (5), where materials or components applied to vertical assemblies are installed to provide required protection from precipitation and are covered in the scope of the standards listed below, the materials or components shall conform to the requirements of the respective standards

- (a) ASTM C212, "Structural Clay Facing Tile",
- (b) CAN/CGSB-11.3-M, "Hardboard" types 1, 2 or 5 when not factory finished,
- (c) CAN/CGSB-11.5-M, "Hardboard, Precoated, Factory-Finished, for Exterior Cladding",
- (d) CAN/CGSB-34.4-M, "Siding, Asbestos-Cement, Shingles and Clapboards",
- (e) CAN/CGSB-34.5-M, "Sheets, Asbestos-Cement, Corrugated",
- (f) CAN/CGSB-34.14-M, "Sheets, Asbestos-Cement, Decorative",
- (g) CAN/CGSB-34.16-M, "Sheets, Asbestos-Cement, Flat, Fully Compressed",
- (h) CAN/CGSB-34.17-M, "Sheets, Asbestos-Cement, Flat, Semi-Compressed",
- (i) CAN/CGSB-34.21-M, "Panels, Sandwich, Asbestos-Cement with Insulating Cores",
- (j) CGSB 41-GP-24Ma, "Siding, Soffits and Fascia, Rigid Vinyl",
- (k) CAN/CGSB-82.1-M, "Sliding Doors",
- (l) CAN/CGSB-82.5-M, "Insulated Steel Doors",
- (m) CAN/CGSB-93.1-M, "Sheet, Aluminum Alloy, Prefinished, Residential",
- (n) CAN/CGSB-93.2-M, "Prefinished Aluminum Siding, Soffits and Fascia for Residential Use",
- (o) CAN/CGSB-93.3-M, "Prefinished Galvanized and Aluminum-Zinc Alloy Steel Sheet for Residential Use",
- (p) CAN/CGSB-93.4-M, "Galvanized and Aluminum-Zinc Alloy Coated Steel Siding, Soffits and Fascia, Prefinished, Residential",
- (q) CSA-A371, "Masonry Construction for Buildings", Section 4,
- (r) CAN/CSA-A440-M, "Windows",
- (s) CSA O115-M, "Hardwood and Decorative Plywood",
- (t) CSA O118.1-M, "Western Red Cedar Shingles and Shakes" with shakes not less than No. 1 grade and shingles not less than No. 2 grade, except that No. 3 grade may be used for undercoursing,
- (u) CSA O118.2-M, "Eastern White Cedar Shingles" not less than B (clear) grade except that C grade may be used for undercoursing,
- (v) CSA O121-M, "Douglas Fir Plywood",
- (w) CSA O151-M, "Canadian Softwood Plywood",

(x) CSA O153, "Poplar Plywood",

(y) CAN/CSA-O325.0, "Construction Sheathing", or

(z) CAN/CSA-O437.0, "OSB and Waferboard".

(4) Except as provided in Sentence (5), windows and sliding doors exposed to the exterior and covered in the scope of CAN/CSA-A440-M, "Windows" or CAN/CGSB-82.1-M, "Sliding Doors" shall conform at least to the watertightness requirements in CAN/CSA-A440.1-M, "User Selection Guide to CAN/CSA-A440-M Windows".

(5) Where a wired glass assembly in a required *fire separation* is exposed to the exterior, the assembly need not conform to CAN/CSA-A440-M, "Windows" or CAN/CSA-A440.1-M, "User Selection Guide to CAN/CSA-A440-M Windows".

5.6.1.3. Installation of Protective Materials

(1) Where a material applied to a sloped or horizontal assembly is installed to provide required protection from precipitation and its installation is covered in the scope of one of the standards listed below, installation shall conform to the requirements of the respective standard

- (a) CAN/CGSB 37.51-M, "Application of Hot Applied Rubberized Asphalt for Roofing and Waterproofing",
- (b) CGSB 37-GP-55M, "Application of Sheet Applied Flexible Polyvinyl Chloride Roofing Membrane",
- (c) CAN3-A123.51-M, "Asphalt Shingle Application on Roof Slopes 1:3 and Steeper", or
- (d) CAN3-A123.52-M, "Asphalt Shingle Application on Roof Slopes 1:6 to less than 1:3".

(2) Protective materials applied to sloped or horizontal assemblies shall be installed to resist wind-uplift loads determined according to Subsection 4.1.8.

(3) Where masonry applied to vertical assemblies is installed to provide required protection from precipitation, installation shall conform to the requirements of CSA-A371, "Masonry Construction for Buildings".

(4) Where protective materials applied to assemblies are installed to provide required protection from precipitation, the materials shall be installed to shed precipitation or otherwise minimize its entry into the assembly and prevent its penetration through the assembly.

5.6.2. Sealing, Drainage, Accumulation and Disposal

5.6.2.1. Sealing and Drainage

(1) Except as provided in Sentence (2), materials, components, assemblies, joints in materials, junctions between components and junctions between assemblies exposed to precipitation shall be

- (a) sealed to prevent ingress of precipitation, or
- (b) drained to direct precipitation to the exterior.

(2) Sealing or drainage are not required where it can be shown that the omission of sealing and drainage will not adversely affect any of

- (a) the health or safety of *building* users,
- (b) the intended use of the *building*, or
- (c) the operation of *building* services.

5.6.2.2. Accumulation and Disposal

(1) Where water, snow or ice can accumulate on a *building*, provision shall be made to minimize the likelihood of hazardous conditions arising from such accumulation.

(2) Where precipitation can accumulate on sloped or horizontal assemblies, provision shall be made for drainage conforming with Section 7.4.

(3) Where downspouts are provided and are not connected to a sewer, provisions shall be made to

- (a) divert the water from the *building*,
- (b) prevent *soil* erosion, and
- (c) minimize icing hazards.

(4) Junctions between vertical assemblies, and sloped or horizontal assemblies, shall be designed and constructed to minimize the flow of water from the sloped or horizontal assembly onto the vertical assembly.

Section 5.7. Surface Water

5.7.1. Protection from Surface Water

5.7.1.1. Prevention of Accumulation and Ingress

(1) Except as provided in Sentence (2), the *building* shall be located, the *building* site *graded*, catch basins installed, or *foundation* walls constructed so that surface water will not

- (a) accumulate against or enter into the *building*, or
- (b) damage moisture-susceptible materials.

(2) *Buildings* specifically designed to accommodate accumulation of water at the *building* or water ingress need not comply with Clause (1)(a).

Section 5.8. Moisture in the Ground

5.8.1. Foundation and Floor Drainage

5.8.1.1. Required Drainage

(1) Except where a wall or floor is subject to continuous hydrostatic pressure, or unless it can be shown to be unnecessary, the bottom of every exterior *foundation* wall and every floor-on-ground shall be provided with drainage.

5.8.1.2. Drainage Materials and Installation

(1) Drainage shall be designed and installed to accommodate the drainage load.

5.8.2. Protection from Moisture in the Ground

5.8.2.1. Required Moisture Protection

(1) Except as provided in Sentence (2), where a *building* element separates interior space from the ground, materials, components or assemblies shall be installed to prevent moisture transfer into the space.

(2) Materials, components or assemblies need not be installed to prevent moisture transfer from the ground where it can be shown that such transfer will not adversely affect any of

- (a) the health or safety of *building* users,
- (b) the intended use of the *building*, or
- (c) the operation of *building* services.

5.8.2.2. Protective Material and Component Properties

(1) Except where it can be shown that lesser protection will not lead to adverse conditions, or as provided in Article 5.8.2.3., materials and components installed to provide required moisture protection shall conform to the requirements of this Article.

(2) Except as provided in Sentence (3), materials installed to provide required moisture protection shall be capable of bridging

- (a) construction, control and expansion joints,
- (b) junctions between different *building* assemblies, and
- (c) junctions between *building* assemblies and elements penetrating *building* assemblies.

(3) Where the required moisture protection material is not capable of bridging construction, control and expansion joints, those joints shall be designed to maintain the continuity of the moisture protection.

(4) Moisture protection materials and components shall have sufficiently low water permeance to resist moisture loads.

(5) Moisture protection shall be designed and constructed to resist design hydrostatic pressures as determined in accordance with Section 4.2.

(6) Where materials installed to provide the required resistance to moisture transfer are covered in the scope of the standards listed below, the materials shall conform to the requirements of the respective standards

- (a) CAN/CGSB-37.2-M, "Emulsified Asphalt, Mineral Colloid Type, Unfilled, for Dampproofing and Waterproofing and for Roof Coatings",
- (b) CGSB 37-GP-9Ma, "Primer, Asphalt for Asphalt Roofing, Dampproofing and Waterproofing",
- (c) CAN/CGSB-37.16-M, "Filled Cutback Asphalt for Dampproofing and Waterproofing",
- (d) CAN/CGSB-37.50-M, "Hot Applied Rubberized Asphalt for Roofing and Waterproofing",
- (e) CGSB 37-GP-52M, "Roofing and Waterproofing Membrane, Sheet Applied, Elastomeric",
- (f) CGSB 37-GP-54M, "Roofing and Waterproofing Membrane, Sheet Applied, Flexible, Polyvinyl Chloride",
- (g) CGSB 37-GP-56M, "Membrane, Modified, Bituminous, Prefabricated and Reinforced for Roofing", or
- (h) CSA A123.4-M, "Bitumen for Use in Construction of Built-up Roof Coverings and Dampproofing and Waterproofing Systems".

(7) Except as provided in Sentence (8), materials covered in the scope of the standards listed below shall not be installed to provide the required resistance to moisture transfer

- (a) CGSB 37-GP-6Ma, "Asphalt, Cutback, Unfilled for Damp-proofing", or

- (b) CGSB 37-GP-18Ma, "Tar, Cutback, Unfilled for Damp-proofing".

(8) Where the substrate is cast-in-place concrete, and a drainage layer is installed between the *building* assembly and the *soil*, and the assembly will not be subject to hydrostatic pressure

- (a) materials and components installed to provide the required resistance to moisture transfer need not conform with Sentences 5.8.2.2.(1) to (5), and
- (b) materials covered in the scope of

- (i) CGSB 37-GP-6Ma, "Asphalt, Cutback, Unfilled for Damp-proofing", or

- (ii) CGSB 37-GP-18Ma, "Tar, Cutback, Unfilled for Damp-proofing",

are permitted to be installed to provide the required resistance to moisture transfer where those materials conform to the requirements of the standards.

5.8.2.3. Installation of Moisture Protection

(1) Except as provided in Sentence (2), where materials are installed to provide the required resistance to moisture transfer and their installation is covered in the scope of the standards listed below, installation shall conform to the waterproofing requirements of the respective standards

- (a) CAN/CGSB-37.3-M, "Application of Emulsified Asphalts for Dampproofing or Waterproofing",
- (b) CGSB 37-GP-36M, "Application of Filled Cutback Asphalts for Dampproofing and Waterproofing",
- (c) CGSB 37-GP-37M, "Application of Hot Asphalt for Damp-proofing or Waterproofing", or
- (d) CAN/CGSB-37.51-M, "Application of Hot Applied Rubberized Asphalt for Roofing and Waterproofing".

(2) Where the substrate is cast-in-place concrete, and a drainage layer is installed between the *building* assembly and the *soil*, and the assembly will not be subject to hydrostatic pressure

- (a) materials and components installed to provide the required resistance to moisture transfer and whose installation is covered in the scope of the standards listed in Sentence (1), are permitted to be installed in conformance with the dampproofing requirements of the standards listed in Sentence (1), or
- (b) materials installed to provide the required resistance to moisture transfer and whose installation is covered in the scope of the standards listed below, shall be installed in conformance with the requirements of the respective standards:
- (i) CGSB 37-GP-12Ma, "Application of Unfilled Cutback Asphalt for Dampproofing", or
- (ii) CAN/CGSB 37.22-M, "Application of Unfilled Cutback Tar Foundation Coating for Dampproofing".

Part 6 Heating, Ventilating and Air-Conditioning

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Part 6 Heating, Ventilating and Air-Conditioning

Section 6.1. General

6.1.1. Application

6.1.1.1. Scope

- (1) The scope of this Part shall be as described in Section 2.1.

(2) Where the method of operation of an existing heating, ventilating or *air-conditioning* system is altered, the repair, adjustment or component replacements that change the capacity or extent of safety of the system shall conform to this Code.

6.1.1.2. Application

(1) This Part applies to systems and equipment for heating, ventilating and *air-conditioning* services.

6.1.2. Definitions

6.1.2.1. Reserved

6.1.3. Plans and Specifications

6.1.3.1. Reserved

Section 6.2. Design and Installation

6.2.1. General

6.2.1.1. Good Engineering Practice

(1) Heating, ventilating and *air-conditioning* systems, including related mechanical refrigeration systems, shall be designed, constructed and installed to conform to good engineering practice appropriate to the circumstances such as described in

- (a) the ASHRAE Handbooks as follows:
- (i) 1993 Fundamentals,
- (ii) 1994 Refrigeration,
- (iii) 1995 HVAC Applications,
- (iv) 1996 HVAC Systems and Equipment, and

- (v) ASHRAE/IES 90.1-1989, "Energy Efficient Design of New Buildings Except Lowrise Residential Buildings",
- (b) the CAN/CSA-F280-M90, "Determining the Required Capacity of Residential Space Heating and Cooling Appliances", and the outside winter design temperatures shall conform to Subsection 2.5.1. of this Code,
- (c) the CAN/CSA-F326-M91, "Residential Mechanical Ventilation Requirements",
- (d) the NFPA Fire Codes (1996 Publication),
- (e) the HRAI Digest 1992,
- (f) the Hydronics Institute Manuals,
- (g) the SMACNA Manuals,
- (h) the Industrial Ventilation Manual, 22nd Edition 1995, published by the American Conference of Governmental Industrial Hygienists,
- (i) CAN/CSA-Z317.2, "Special Requirements for HVAC Systems in Health Care Facilities",
- (j) the Unified Canadian Guideline for Integrated (Combined) Heating Systems, and
- (k) the Model National Energy Code for Buildings, 1997.

6.2.1.2. Design Indoor Air Temperatures

(1) *Buildings* classified as Group B, Division 2 or 3 *occupancies* or Group C *residential occupancies* that are intended for use in the winter months on a continuing basis shall be insulated and be equipped with heating facilities that are capable of maintaining an indoor air temperature of 22°C at the outside winter design temperature referred to in Article 6.2.1.8.

(2) All other *buildings* intended for occupancy in the winter months on a continuing basis should be insulated and shall be equipped with heating facilities to maintain a minimum indoor air temperature of 18°C or commensurate with the use of the *building* at the outside winter design temperature described in Article 6.2.1.8.

6.2.1.3. Reserved

6.2.1.4. Structural Movement

(1) Mechanical systems and equipment shall be designed and installed to accommodate the maximum relative structural movement provided for in the *construction* of the *building*.

6.2.1.5. Installation Standards

(1) The installation of solid fuel-burning *appliances* for central heating systems shall comply with CAN/CSA-B365-M, "Installation Code for Solid Fuel-Burning Appliances and Equipment" and the manufacturer's installation instructions.

(2) The solid fuel-fired *appliances* in Sentence (1) shall conform to CAN/CSA-B366.1-M, "Solid Fuel-Fired Central Heating Appliances".

(3) The design and installation of ground and water source heat pumps shall conform to CAN/CSA-C445-M, "Design and Installation of Earth Energy Heat Pump Systems for Residential and Other Small Buildings" where

- (a) the maximum standard rated output is 35 kW per *dwelling unit* for residential applications, or
- (b) small *building* applications serve a heated floor space area not greater than 1 400 m².

(4) The design and installation of ground and water source heat pumps shall conform to CAN/CSA-C447-M, "Design and Installation of Earth Energy Heat Pump Systems for Commercial and Institutional Buildings" where the heated floor space is greater than 1 400 m².

(5) The design and installation of Solid fuel-burning *stoves, ranges* and *space heaters*, including the requirements for combustion air, shall conform to the requirements of CAN/CSA-B365-M, "Installation Code for Solid Fuel-Burning Appliances and Equipment" and the manufacturer's installation instructions.

6.2.1.6. Fireplaces

- (1) Fireplaces shall conform to the requirements of Section 9.22.

6.2.1.7. Heat Recovery Ventilators

(1) Except as provided in Sentence (2), heat recovery ventilators with rated capacities of not less than 25 L/s and not more than 200 L/s shall be installed in accordance with Article 9.32.3.11.

(2) Where *electric space heating*, other than forced-air electric heating system, is provided in *buildings* of *residential occupancy* within the scope of Part 9, the mechanical ventilation system shall include heat recovery ventilators designed to provide the greater of

- (a) the minimum rated efficiency required by the *Ontario Energy Efficiency Act*, or
- (b) a minimum 55% sensible heat recovery efficiency when tested to the low temperature thermal and ventilation performance test method set out in CAN/CSA-C439-M, "Standard Methods of Test for Rating the Performance of Heat Recovery Ventilators", at a Station 1 test temperature of -25°C at an air flow not less than 30 L/s.

6.2.1.8. Outside Design Conditions

(1) The outside conditions to be used in designing heating, ventilating and *air-conditioning* systems shall be determined in conformance with Subsection 2.5.1.

6.2.1.9. Installation—General

(1) Equipment requiring periodic maintenance and forming part of a heating, ventilating or *air-conditioning* system shall be installed with provision for access for inspection, maintenance, repair and cleaning.

(2) Mechanical equipment shall be protected with *guards* to prevent injury to the public or maintenance staff.

(3) Equipment forming part of a heating or *air-conditioning* system that may be adversely affected by freezing temperatures and that is located in an unheated area shall be protected from freezing.

6.2.1.10. Expansion, Contraction and System Pressure

(1) Heating and cooling systems shall be designed to allow for expansion and contraction of the heat transfer fluid and to maintain the system pressure within the rated working pressure limits of all components of the system.

6.2.1.11. Asbestos

(1) Asbestos shall not be used in air distribution systems or equipment in a form or in a location where asbestos fibres could enter the air supply or return systems.

6.2.1.12. Access Openings

(1) Any covering of an access opening through which a person could enter shall be openable from the inside without the use of keys where there is a possibility of the opening being accidentally closed while the system or equipment is being serviced.

6.2.1.13. Combustible Tubing

(1) *Combustible* tubing for pneumatic controls may be used in *buildings* required to be of *noncombustible construction* providing it has an outside diameter not exceeding 10 mm.

6.2.2. Ventilation**6.2.2.1. Required Ventilation**

(1) Except as provided in Sentence (3), all rooms and spaces in *buildings* shall be ventilated in accordance with this Part.

(2) Except in *storage garages* and *repair garages* covered by Article 6.2.2.3., the rates at which outdoor air is supplied to rooms and spaces in *buildings* by ventilation systems shall be not less than the rates required by ASHRAE Standard 62, "Ventilation for Acceptable Indoor Air Quality".

(3) Self-contained mechanical ventilation systems, serving only one *dwelling unit* which conform to the requirements of Subsection 9.32.3. shall be considered to satisfy the requirements of this Article.

(4) *Live/work units* shall be mechanically ventilated in accordance with the requirement of Sentence (1).

6.2.2.2. Natural Ventilation

(1) The ventilation required by Article 6.2.2.1. shall be provided by mechanical ventilation except that it can be provided by natural ventilation or a combination of natural and mechanical ventilation in

- (a) *buildings* of other than *residential occupancy* having an *occupant load* of not more than one person per 40 m² during normal use,
- (b) *buildings* of *industrial occupancy* where the nature of the process contained therein permits or requires the use of large openings in the *building envelope* even during the winter, or
- (c) seasonal *buildings* not intended to be occupied during the winter.

6.2.2.3. Ventilation of Storage and Repair Garages

(1) Except as provided in Sentences (4) and (6), an enclosed *storage garage* shall have a mechanical ventilation system designed to

- (a) limit the concentration of carbon monoxide to not more than 100 parts per million of air when measured between 900 mm and 1 200 mm from the floor, or
- (b) provide, during operating hours, a continuous supply of outdoor air at a rate of not less than 3.9 L/s for each square metre of floor area.

(2) Mechanical ventilation systems provided in accordance with Clause (1)(a) shall be controlled automatically by carbon monoxide monitoring devices, located so as to provide full protection throughout the *storage garage*.

(3) Mechanical ventilation systems provided in accordance with Sentence (1) shall be designed such that the pressure in the *storage garage* is less than the pressure in adjoining *buildings* of other *occupancy*, or in adjacent portions of the same *building* having a different *occupancy*.

(4) In *storage garages* subject to the requirements of Sentence (1), where motor vehicles are parked by mechanical means, the ventilation requirements may be reduced by one half.

(5) Except as provided in Sentence (6), ticket and attendant booths of *storage garages* shall be pressurized with a supply of outdoor air.

(6) The requirements of Sentences (1) to (5) shall not apply to *open-air storeys* in a *storage garage*.

(7) A *repair garage* shall have a mechanical ventilation system designed to limit the exposure of workers to carbon monoxide to below the time weighted average concentration of 35 parts per million for a normal 8 hour workday or 40 hour work week.

(8) In a *repair garage*, when a repair bay is not immediately adjacent to an outside garage door opening, a system capable of providing continuous general ventilation of not less than 700 L/s per internal bay shall be provided.

(9) The general ventilation system described in Sentence (8) shall be designed to

- (a) operate continuously, or
- (b) be controlled automatically by carbon monoxide monitoring devices, located so as to provide full protection throughout the *repair garage*.

(10) The general ventilation system described in Sentence (8) is not required when tail pipes of vehicles are directly connected to local mechanical exhaust systems that terminate outdoors.

6.2.2.4. Air Contaminants

(1) Air contaminants released within *buildings* shall be removed insofar as possible at their points of origin and shall not be permitted to accumulate in concentrations greater than permitted in the Industrial Ventilation Manual published by the American Conference of Governmental Industrial Hygienists.

(2) Systems serving spaces that contain sources of contamination and systems serving other occupied parts of the *building* but located in or running through spaces that contain sources of contamination shall be designed in such a manner as to prevent spreading of such contamination to other occupied parts of the *building*.

(3) Heating, ventilating and *air-conditioning* systems shall be designed to minimize growth of micro-organisms according to good engineering practice as described in 6.2.1.1.(1).

(4) Mechanical rooms containing refrigeration equipment shall be ventilated in accordance with CSA B52-M, "Mechanical Refrigeration Code".

6.2.2.5. Hazardous Gases, Dusts or Liquids

(1) Systems serving spaces that contain hazardous gases, dusts or liquids shall be designed, constructed and installed in conformance with the provisions of the Ontario Fire Code made under the *Fire Marshals Act*, or in the absence of requirements pertinent to such systems in the Ontario Fire Code, to good engineering practice such as is described in the publications of the National Fire Protection Association and in the National Fire Code of Canada 1995.

6.2.2.6. Commercial Cooking Equipment

(1) All commercial cooking equipment shall be provided with ventilation systems designed, constructed and installed to conform to NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations", except as required by Sentence 3.6.3.1.(1) and Article 3.6.4.2.

6.2.2.7. Crawl Spaces and Attic or Roof Spaces

(1) Every crawl space and every *attic or roof space* shall be ventilated by natural or mechanical means.

6.2.3. Air Duct Systems

6.2.3.1. Application

(1) Except as provided in Sentence (2), the design, construction and installation of air duct distribution systems serving heating, ventilating and *air-conditioning* systems shall conform to this Subsection.

(2) The requirements of Subsection 6.2.4. apply to individual *dwelling units* for the design, construction and installation of air duct distribution systems which serve ventilating or *air-conditioning* systems or which serve heating systems in which the rated heat input does not exceed 120 kW.

6.2.3.2. Materials in Air Duct Systems

(1) Except as provided in Sentences (2) to (4) and in Article 3.6.4.3., all ducts, duct connectors, associated fittings and *plenums* used in air duct systems shall be constructed of steel, aluminum alloy, copper, clay, asbestos-cement or similar *noncombustible* material.

(2) Ducts, associated fittings and *plenums* are permitted to contain *combustible* material provided they

- (a) conform to the appropriate requirements for Class 1 duct materials in CAN/ULC-S110-M, "Standard Methods of Test for Air Ducts",
- (b) conform to Article 3.1.5.14. in a *building* required to be of *noncombustible construction*,
- (c) conform to Subsection 3.1.9.,
- (d) are not used in horizontal runs in a *building* required to be of *noncombustible construction*,
- (e) are not used in vertical runs serving more than 2 *storeys* in a *building* required to be of *noncombustible construction*, and
- (f) are not used in air duct systems in which the air temperature may exceed 120°C.

(3) Duct sealants shall have a *flame-spread rating* of not more than 25 and a smoke developed classification of not more than 50.

(4) Duct connectors that contain *combustible* materials and that are used between ducts and air outlet units shall

- (a) conform to the appropriate requirements for Class 1 air duct materials in CAN/ULC-S110-M, "Standard Methods of Test for Air Ducts",
- (b) be limited to 4 m in length,

(c) be used only in horizontal runs, and

(d) not penetrate required *fire separations*.

(5) Materials in Sentences (1) to (4) which when used in a location where they may be subjected to excessive moisture shall have no appreciable loss of strength when wet and shall be corrosion-resistant.

6.2.3.3. Connections and Openings in Air Duct Systems

(1) Air duct systems shall have

- (a) tight-fitting connections throughout, and
- (b) no openings other than those required for proper operation, inspection and maintenance of the system.

(2) Except for systems that serve one *dwelling unit* only, access openings shall be provided in duct systems where lint, grease, debris, paper or other combustible material may accumulate in *plenums* and ducts.

6.2.3.4. Coverings, Linings, Adhesives and Insulation

(1) Coverings, linings and associated adhesives and insulation of air ducts, *plenums* and other parts of air duct systems shall be of *noncombustible* material when exposed to heated air or radiation from heat sources that would result in the exposed surface exceeding a temperature of 120°C.

(2) When *combustible* coverings and linings, including associated adhesives and insulation, are used, they shall have a *flame-spread rating* of not more than 25 on any exposed surface or any surface that would be exposed by cutting through the material in any direction, and a smoke developed classification of not more than 50, except that the outer covering of ducts, *plenums* and other parts of air duct systems used within an assembly of *combustible construction* may have an exposed surface *flame-spread rating* of not more than 75 and may have a smoke developed classification greater than 50.

(3) *Combustible* coverings and linings in Sentence (2) shall not flame, glow, smoulder or smoke when tested in accordance with the method of test in ASTM C411, "Hot-Surface Performance of High-Temperature Thermal Insulation" at the maximum temperature to which the coverings and linings are to be exposed in service.

(4) Except as provided in Sentence (5), foamed plastic insulation shall not be used as part of an air duct or for insulating an air duct.

(5) Foamed plastic insulation may be used in a ceiling space that acts as a return air *plenum* provided the foamed plastic insulation is protected from exposure to the *plenum* in accordance with Article 3.1.5.11.

(6) *Combustible* coverings and linings of ducts, including associated adhesives and insulation, shall be interrupted at the immediate area of operation of heat sources in a duct system, such as electric resistance heaters or fuel-burning heaters or *furnaces*, and where the duct penetrates a *fire separation*.

(7) Linings of ducts shall be installed so that they will not interfere with the operation of volume or balancing dampers, *fire dampers*, *fire stop flaps* and other *closures*.

6.2.3.5. Underground Ducts

(1) Underground ducts shall be constructed to provide interior drainage from and access to all low points and shall not be connected directly to a sewer.

6.2.3.6. Clearances

(1) The clearances from *combustible* material and supply *plenums*, supply *ducts*, boots and register boxes of heating systems shall conform to the requirements of Subsection 6.2.4.

6.2.3.7. Fire Dampers

(1) *Fire dampers* shall conform to the requirements of Article 3.1.8.9.

6.2.3.8. Smoke Detector Control

(1) Air handling systems shall incorporate *smoke detector* control where required by Article 3.2.4.13.

6.2.3.9. Exhaust Ducts and Outlets

(1) Except as provided in Sentence (2), *exhaust ducts* of nonmechanical ventilating systems serving separate rooms or spaces shall not be combined.

(2) *Exhaust ducts* of nonmechanical ventilating systems serving similar *occupancies* may be combined immediately below the point of final delivery to the outside, such as at the base of a roof ventilator.

(3) *Exhaust ducts* of ventilating systems shall have provision for the removal of condensation where this may be a problem.

(4) Exhaust outlets shall be designed to prevent back draft under wind conditions.

(5) Except as permitted in Sentence (6), exhaust systems shall discharge directly to the outdoors.

(6) Exhaust systems are permitted to exhaust into a *storage garage* provided such systems serve rooms which

(a) are accessible only from the *storage garage*, and

(b) are not served by duct systems serving other parts of the *building*.

(7) *Exhaust ducts* connected to laundry drying equipment shall be independent of other *exhaust ducts*.

(8) Except as provided in Sentence (10) and except for self-contained systems serving individual *dwelling units*, *exhaust ducts* serving rooms containing water closets, urinals, basins, showers or slop sinks shall be independent of other *exhaust ducts*.

(9) Except as provided in Sentence (10) and except for self-contained systems serving individual *dwelling units*, *exhaust ducts* serving rooms containing residential cooking equipment shall be independent of other *exhaust ducts*.

(10) Two or more exhaust systems described in Sentences (8) and (9) may be interconnected or connected with *exhaust ducts* serving other areas of the *building* provided

(a) the connections are made at the inlet of an exhaust fan, and

(b) all interconnected systems are equipped with suitable back pressure devices to prevent passage of odours from one system to another when the fan is not in operation.

(11) Where *exhaust ducts* containing air from heated spaces pass through or are adjacent to unheated spaces, the ducts shall be insulated

to prevent moisture condensation in the ducts in accordance with Sentence 6.2.4.3.(10).

(12) Except for wash basins (lavatories), the exhaust air provided shall not be less than 24 L/s for each sanitary fixture listed in Sentence (8).

(13) Except for wash basins (lavatories), sanitary facilities in a food premises shall be mechanically ventilated and shall be capable of exhausting air at the rate of not less than 24 L/s for each sanitary fixture listed in Sentence (14).

(14) The mechanical ventilation described in Sentence (13) applies to rooms containing water closets, urinals, basins, showers or slop sinks.

6.2.3.10. Interconnection of Systems

(1) Except as provided in Sentence 6.2.3.9.(6), air duct systems serving *storage garages* shall not be interconnected with other parts of the *building*.

(2) In a *residential occupancy*, air from one *suite* shall not be circulated to any other *suite* nor to a *public corridor* or public stairway.

(3) Except for Sentence 3.3.1.4.(4) and Sentences (4) and (5), a *public corridor* or corridor serving the public shall not be used as a portion of a supply, return or exhaust air system serving adjoining areas, other than as part of a supply air system serving toilet rooms, bathrooms, shower rooms and similar auxiliary spaces opening directly to the *public corridor* or corridor used by the public.

(4) A *public corridor* may be used as part of an engineered smoke control system.

(5) Infiltration due to corridor pressurization is permitted into a *residential occupancy* from a *public corridor*.

6.2.3.11. Ducts in Exit Stairways

(1) Duct penetration of *fire separations* separating *exits* from the remainder of the *building* shall be in accordance with Article 3.4.4.4.

6.2.3.12. Make-up Air

(1) In ventilating systems that exhaust air to the outdoors, provision shall be made for the admission of a supply of make-up air in sufficient quantity so that the operation of the exhaust system and other exhaust equipment or combustion equipment is not adversely affected.

6.2.3.13. Supply, Return, Intake and Exhaust Air Openings

(1) Supply, return and exhaust air openings in rooms or spaces in *buildings* when located less than 2 m above the floor shall be protected by grilles having openings of a size that will not allow the passage of a 15 mm diameter sphere.

(2) *Combustible* grilles, diffusers and other devices for supply, return and exhaust air openings in rooms shall conform to the *flame-spread rating* and smoke developed classification requirements for the interior finish of the surface on which they are installed.

(3) Outdoor air intakes and exhaust outlets at the *building* exterior shall be designed or located so that the air entering the *building* system will not contain more contaminants than the normal exterior air of the locality in which the *building* is situated.

(4) Exterior openings for outdoor air intakes and exhaust outlets shall be shielded from the entry of snow and rain and shall be fitted with corrosion-resistant screens of mesh having openings not larger than

15 mm, except where experience has shown that climatic conditions require larger openings to avoid icing over of the screen openings.

(5) Screens required in Sentence (4) shall be accessible for maintenance.

6.2.3.14. Filters and Odour Removal Equipment

(1) Air filters for air duct systems shall conform to the requirements for Class 2 air filter units as described in CAN4-S111, "Standard Method of Fire Tests For Air Filter Units".

(2) When electrostatic-type filters are used, they shall be installed so as to ensure that the electric circuit is automatically de-energized when filter access doors are opened and in *dwelling units* when the system circulating fan is not operating.

(3) When odour removal equipment of the adsorption type is used it shall be

(a) installed to provide access so that adsorption material can be reactivated or renewed, and

(b) protected from dust accumulation by air filters installed on the inlet side.

(4) Facilities for flushing and drainage shall be provided where filters are designed to be washed in place.

6.2.3.15. Air Washers and Evaporative Cooling Sections or Towers

(1) The filter and water evaporation medium of every air washer and evaporative cooling section enclosed within a *building* shall be made of *noncombustible* material.

(2) Sumps for air washer and evaporative cooling sections shall be constructed and installed so that they can be flushed and drained.

(3) Evaporative cooling sections or towers of *combustible* material located on or outside *buildings* shall have a clearance of not less than 12 m from sources of ignition such as *chimneys* or incinerators when the tower exterior construction is *noncombustible*, and a clearance of not less than 30 m when the tower exterior construction is *combustible*.

(4) Evaporative cooling sections or towers, the main structure of which exceeds a volume of 55 m³, shall comply with the requirements of NFPA 214, "Water-Cooling Towers".

6.2.3.16. Fans and Associated Air Handling Equipment

(1) Fans for heating, ventilating and *air-conditioning* systems shall be located and installed so that their operation

(a) does not adversely affect the draft required for proper operation of fuel-fired *appliances*, and

(b) does not allow the air in the air duct system to be contaminated by air or gases from the *boiler-room* or *furnace-room*.

(2) Fans and associated air handling equipment, such as air washers, filters and heating and cooling units, when installed on the roof or elsewhere outside the *building*, shall be of a type designed for outdoor use.

6.2.3.17. Construction and Installation of Ducts and Plenums

(1) Rectangular panels in *plenums* and ducts more than 300 mm wide shall be shaped to provide sufficient stiffness.

(2) Where the installation of heating *supply ducts* in walls and floors creates a space between the duct and construction material, the space shall be fire stopped with *noncombustible* material at each end.

(3) Ducts shall be securely supported by metal hangers, straps, lugs or brackets, except that where zero clearance is permitted, wooden brackets may be used.

(4) All round duct joints shall be tight-fitting and lapped not less than 25 mm.

(5) Rectangular duct connections shall be made with S and drive cleats or equivalent mechanical connections.

(6) Trunk *supply ducts* shall not be nailed directly to wood members.

(7) Branch ducts shall be supported at suitable spacings to maintain alignment and prevent sagging.

(8) Ducts in or beneath concrete slabs-on-ground shall be watertight, corrosion-, decay- and mildew-resistant.

(9) Where a *supply* or *return duct* is not protected by an insulated exterior wall or where the duct is exposed to an unheated space it shall be insulated to prevent condensation.

6.2.3.18. Connectors

(1) Vibration isolation connectors in air duct systems shall be *non-combustible*, except that *combustible* fabric connectors are permitted provided they

(a) do not exceed 250 mm in length,

(b) comply with the flame-resistance requirements of CAN/ULC-S109, "Standard for Flame Tests of Flame-Resistant Fabrics and Films", and

(c) are not used in a location where they are exposed to heated air or radiation from heat sources that may cause the exposed surface to exceed a temperature of 120°C.

6.2.3.19. Tape

(1) Tape used for sealing joints in air ducts, *plenums* and other parts of air duct systems shall meet the flame-resistance requirements for fabric in CAN/ULC-S109, "Standard for Flame Tests of Flame-Resistant Fabrics and Films".

6.2.3.20. Return-Air System

(1) The return-air system shall be designed to handle the entire air supply.

(2) Where any part of a *return duct* will be exposed to radiation from the *furnace* heat exchanger or other radiating part within the *furnace*, such part of a *return duct* directly above or within 600 mm of the outside *furnace* casing shall be *noncombustible*.

(3) *Return ducts* serving solid fuel-fired *furnaces* shall be constructed of *noncombustible* material.

(4) Where *combustible return ducts* are permitted, they shall be lined with *noncombustible* material below floor registers, at the bottom of vertical ducts and under *furnaces* having a bottom return.

(5) The return-air system shall be designed so that the negative pressure from the circulating fan cannot affect the *furnace* combustion

air supply nor draw combustion products from joints or openings in the furnace or flue pipe.

(6) Return-air inlets shall not be installed in an enclosed room or crawl space that provides combustion air to a fuel-fired appliance.

6.2.4. Air Ducts for Low Capacity Systems

6.2.4.1. Application

(1) Except as provided in Sentence (2), the design, construction and installation of air duct distribution systems serving heating, ventilating and air-conditioning systems shall conform to Subsection 6.2.3.

(2) The requirements of this Subsection apply to individual dwelling units for the design, construction and installation of air duct distribution systems which serve ventilating or air-conditioning systems or which serve heating systems in which the rated heat input does not exceed 120 kW.

6.2.4.2. Duct Design

(1) Materials in supply ducts shall conform to Article 6.2.3.2.

(2) Galvanized steel or aluminum supply ducts shall conform to Table 6.2.4.2.

Table 6.2.4.2.

Minimum Metal Thickness of Ducts

Forming Part of Sentence 6.2.4.2.(2)

| Type of Duct | Maximum Diameter, mm | Maximum Width or Depth, mm | Minimum metal thickness, mm | |
|---|----------------------|----------------------------|-----------------------------|--------------|
| | | | Duct Material | |
| | | | Galvanized Steel | Aluminum |
| Round ducts serving single dwelling units | 125 or less | — | 0.254 | 0.30 |
| Round | 350 or over 350 | — | 0.33 0.41 | 0.30 0.41 |
| Rectangular, enclosed | — | 350 or over 350 | 0.33 0.41 | 0.30 0.41 |
| Rectangular, not enclosed, for single dwelling units, with required clearance up to 12 mm | — | 350 or over 350 | 0.33 0.41 | 0.41 0.48 |
| Rectangular, not enclosed, with required clearance of more than 12 mm | — | 350 or over 350 | 0.41 0.48 | 0.41 0.48 |
| Column 1 | 2 | 3 | 4 | 5 |

(3) The design of fitting for ducts shall conform to SMACNA, "HVAC Duct Construction Standards—Metal and Flexible", except that metal thickness shall conform to Table 6.2.4.2.

6.2.4.3. Construction and Installation of Ducts and Plenums

(1) Rectangular panels in plenums and ducts more than 300 mm wide shall be shaped to provide sufficient stiffness.

(2) Where the installation of heating supply ducts in walls and floors creates a space between the duct and construction material, the space shall be fire stopped with noncombustible material at each end.

(3) Ducts shall be securely supported by metal hangers, straps, lugs or brackets, except that where zero clearance is permitted, wooden brackets may be used.

(4) All round duct joints shall be tight-fitting and lapped not less than 25 mm.

(5) Rectangular duct connections shall be made with S and drive cleats or equivalent mechanical connections.

(6) Trunk supply ducts shall not be nailed directly to wood members.

(7) Branch ducts shall be supported at suitable spacings to maintain alignment and prevent sagging.

(8) Combustible ducts in concrete slabs-on-ground that are connected to a furnace supply plenum shall be located not closer than 600 mm to that plenum and not less than 600 mm from its connection to a riser or register.

(9) Ducts in or beneath concrete slabs-on-ground shall be watertight, corrosion-, decay- and mildew-resistant.

(10) Where a supply or return duct is not protected by an insulated exterior wall or where the duct is exposed to an unheated space it shall be insulated to provide a thermal resistance of not less than RSI 2.1.

6.2.4.4. Warm-Air Supply Outlets

(1) In a dwelling unit, a warm-air supply outlet shall be provided in each finished room which is located adjacent to unheated space, exterior air or exterior soil.

(2) Except as provided in Sentence (3), when a room described in Sentence (1) is located adjacent to exterior walls, such outlets shall be located so as to bathe not less than one exterior wall or window with warm air, except in bathrooms, utility rooms or kitchens, where this may not be practical.

(3) Where the heating system is also designed to provide ventilation air, ceiling outlets or outlets located high on interior walls may be installed provided the outlets are

(a) designed for this purpose, and

(b) installed with diffusers.

(4) Not less than one warm-air supply outlet shall be provided for each 40 m² of floor surface area in unfinished basements serving dwelling units, located so as to provide adequate distribution of warm air throughout the basement.

(5) Except for pipeless furnaces and floor furnaces, the capacity of warm-air supply outlets serving dwelling units shall be not less than the design heat loss from the area served and shall not exceed 3 kW per outlet.

(6) In *basements* and heated crawl spaces, the calculated heat gain from the *supply ducts* and *plenum* surfaces may be considered in calculating the design heat loss.

(7) Warm-air supply outlets located in finished areas shall be provided with diffusers and adjustable openings and shall not be located on a *furnace plenum*.

(8) The temperature of supply air at the warm-air supply outlets shall not exceed 70°C.

(9) Air duct systems serving *storage garages* shall not be interconnected with other parts of the *building*.

6.2.4.5. Concrete Slabs-on-Ground

(1) Warm-air supply systems for *buildings of residential occupancy* built on concrete slabs-on-ground

(a) shall be installed in the slab, and

(b) shall be of the perimeter loop type or radial perimeter type.

6.2.4.6. Adjustable Dampers and Balance Stops

(1) All branch *supply ducts* for residential systems shall be equipped with volume control dampers at the boot to permit balancing or shall be fitted with a diffuser incorporating an adjustable and lockable volume control device which can be set in a fixed position.

6.2.4.7. Return-Air System

(1) The return-air system shall be designed to handle the entire air supply.

(2) Except as provided in Sentences (3) and (4), *return ducts* shall be constructed of material having a surface *flame-spread rating* of not more than 150.

(3) Where any part of a *return duct* will be exposed to radiation from the *furnace* heat exchanger or other radiating part within the *furnace*, such part of a *return duct* directly above or within 600 mm of the outside *furnace* casing shall be *noncombustible*.

(4) *Return ducts* serving solid fuel-fired *furnaces* shall be constructed of *noncombustible* material.

(5) *Combustible return ducts* shall be lined with *noncombustible* material below floor registers, at the bottom of vertical ducts and under *furnaces* having a bottom return.

(6) Spaces between studs and joists used as *return ducts* shall be separated from the unused portions of such spaces by tight-fitting metal stops or wood blocking.

(7) A vertical *return duct* shall have openings to return air on not more than 1 floor.

(8) A *public corridor* shall comply with Sentences 6.2.3.10.(3) and (4).

(9) The return-air system shall be designed so that the negative pressure from the circulating fan cannot affect the *furnace* combustion air supply nor draw combustion products from joints or openings in the *furnace* or *flue pipe*.

(10) Return-air from a *dwelling unit* shall not be recirculated to any other *dwelling unit*.

(11) Except for floor levels that are less than 900 mm above or below an adjacent floor level which is provided with a return-air inlet, at least one return-air inlet shall be provided in each floor level in a *dwelling unit*.

(12) Provision shall be made for the return of air from all rooms by leaving gaps beneath doors, using louvred doors or installing *return duct* inlets.

6.2.4.8. Coverings, Linings and Insulation

(1) Foamed plastic insulation may be used in a ceiling space that acts as a return air *plenum* provided the foamed plastic insulation is protected from exposure to the *plenum* in accordance with Article 3.1.5.11.

(2) Linings of ducts shall be installed so that they will not interfere with the operation of volume or balancing dampers.

6.2.4.9. Tape

(1) Tape used for sealing joints in air ducts, *plenums* and other parts of air duct systems shall meet the flame-resistance requirements for fabric in CAN/ULC-S109, "Standard for Flame Tests of Flame-Resistant Fabrics and Films".

6.2.4.10. Clearances of Ducts and Plenums

(1) Where the *plenum* clearance is 75 mm or less, the clearance between a *supply duct* and *combustible* material shall

(a) be equal to the required *plenum* clearance within 450 mm of the *plenum*, and

(b) be not less than 12 mm at a distance of 450 mm or more from the *plenum*, except that this clearance may be reduced to zero beyond a bend or offset in the duct sufficiently large to shield the remainder of the duct from direct radiation from the *furnace* heat exchanger.

(2) Where the *plenum* clearance is more than 75 mm but not more than 150 mm, the clearance between a *supply duct* and *combustible* material shall

(a) be equal to the required *plenum* clearance within a horizontal distance of 1 800 mm of the *plenum*, and

(b) be not less than 12 mm at a horizontal distance of 1 800 mm or more from the *plenum*, except that this distance may be reduced to zero beyond a bend or offset in the duct sufficiently large to shield the remainder of the duct from direct radiation from the *furnace* heat exchanger.

(3) Where the *plenum* clearance is more than 150 mm, the clearance between a *supply duct* and *combustible* material shall

(a) be equal to the required *plenum* clearance within a horizontal distance of 1 000 mm of the *plenum*,

(b) be not less than 150 mm within a horizontal distance between 1 000 mm and 1 800 mm from the *plenum*, and

(c) be not less than 25 mm at a horizontal distance of 1 800 mm or more from the *plenum*, except that this distance may be reduced to 8 mm beyond a bend or offset in the duct sufficiently large to shield the remainder of the *supply duct* from direct radiation from the *furnace* heat exchanger.

(4) Where a register is installed in a floor directly over a pipeless *furnace*, a double-walled register box with not less than 100 mm between walls, or a register box with the warm-air passage completely

surrounded by the cold-air passage, shall be permitted in lieu of the clearances listed in Sentences (1), (2) and (3).

6.2.4.11. Exhaust Ducts and Outlets

(1) Where an *exhaust duct* passes through or is adjacent to unheated space, the duct shall be insulated to prevent moisture or condensation in the duct.

(2) Exhaust outlets shall be designed to prevent back draft under wind conditions.

(3) *Exhaust ducts* directly connected to laundry drying equipment shall be independent of other *exhaust ducts*.

6.2.4.12. Make-up Air

(1) In ventilating systems that exhaust air to the outdoors, provision shall be made for the admission of a supply of make-up air in sufficient quantity so that the operation of the exhaust system and other exhaust equipment or combustion equipment is not adversely affected.

(2) Except as provided in Sentence (3), when electric resistance heating is used to temper make-up air required in Sentence (1) in *buildings of residential occupancy* within the scope of Part 9, the energy rating for windows and sliding glass doors shall conform to the requirements of Article 9.25.2.7. and the minimum thermal resistance of insulation to be installed shall conform to Column 4 of Table 9.25.2.7.

(3) Sentence (2) does not apply where

(a) *electric space heating* is provided, or

(b) a *heat recovery ventilator* meeting the minimum rating requirements of Article 6.2.1.7. is installed.

6.2.4.13. Supply, Return, Intake and Exhaust Air Openings

(1) Supply, return and exhaust air openings in rooms or spaces shall be protected by grilles having openings of a size that will not allow the passage of a 15 mm diameter sphere.

(2) Outdoor air intakes and exhaust outlets at the *building* exterior shall be designed or located so that the air entering the *building* system will not contain more contaminants than the normal exterior air.

(3) Exterior openings for outdoor air intakes and exhaust outlets shall be shielded from the entry of snow and rain and shall be fitted with corrosion-resistant screens of mesh not larger than 15 mm, except where climatic conditions may require larger openings.

(4) Screens required in Sentence (3) shall be accessible for maintenance.

6.2.4.14. Air Filters and Equipment

(1) Air filters for air duct systems shall conform to the requirements for Class 2 air filter units as described in CAN4-S111-M, "Standard Method of Fire Tests For Air Filter Units".

(2) When electrostatic-type filters are used, they shall be installed so as to ensure that the electric circuit is automatically de-energized when filter access doors are opened or when the system circulating fan is not operating.

(3) When odour removal equipment of the adsorption type is used it shall be

(a) installed to provide access so that adsorption material can be reactivated or renewed, and

(b) protected from dust accumulation by air filters installed on the inlet side.

6.2.5. Heating Appliances, General

6.2.5.1. Location of Appliances

(1) Except for *appliances* installed in *dwelling units*, fuel-fired heating *appliances* shall be located, enclosed or separated from the remainder of the *building* in conformance with Section 3.6.

6.2.5.2. Appliances Installed Outside the Building

(1) Fuel-fired *appliances* installed on the roof of a *building* or otherwise outside the *building* shall be

(a) designed for outdoor use,

(b) installed not less than 1 200 mm from the property line, measured horizontally, and

(c) installed not less than 3 m from an adjacent wall of the same *building* when such wall contains an opening or openings within 3 storeys above and 5 m horizontally from the *appliance*, unless such openings are protected by a *closure* assembly having a 45 min *fire-protection rating* determined in conformance with Article 3.1.8.4., or by wired glass conforming to Article 3.1.8.14.

6.2.6. Incinerators

6.2.6.1. Applicable Standard

(1) The design, construction, installation and *alteration* of every indoor incinerator shall conform to NFPA 82, "Incinerators, Waste and Linen Handling Systems and Equipment".

6.2.6.2. Venting

(1) Every incinerator shall be served by a *chimney flue* conforming to Section 6.3.

6.2.7. Unit Heaters

6.2.7.1. Clearances

(1) Every *unit heater* using either steam or hot water as the heating medium shall be installed with a clearance of not less than 25 mm between the *appliance* and adjacent *combustible* material.

6.2.8. Radiators and Convectors

6.2.8.1. Lining or Backing

(1) Every steam or hot water radiator and convector located in a recess or concealed space or attached to the face of a wall of *combustible construction* shall be provided with a *noncombustible* lining or backing.

6.2.9. Piping for Heating and Cooling Systems

6.2.9.1. Piping Materials and Installation

(1) Piping shall be made from materials designed to withstand the effects of temperatures and pressures that may occur in the system.

(2) Every pipe used in a heating or *air-conditioning* system shall be installed to allow for expansion and contraction due to temperature changes.

(3) Supports and anchors for piping in a heating or *air-conditioning* system shall be designed and installed to ensure that undue stress is not placed on the supporting structure.

6.2.9.2. Insulation and Coverings

(1) Insulation and coverings on pipes shall be composed of material suitable for the operating temperature of the system to withstand deterioration from softening, melting, mildew and mould.

(2) Insulation and coverings on pipes in which the temperature of the fluid exceeds 120°C

(a) shall be made of *noncombustible* material, or

(b) shall not flame, glow, smoulder or smoke when tested in accordance with the method of test ASTM C411, "Hot-Surface Performance of High-Temperature Thermal Insulation", at the maximum temperature to which such insulation or covering is to be exposed in service.

(3) Except as provided in Sentence (7), where *combustible* insulation is used on piping in a *horizontal* or *vertical service space*, the insulation and coverings on such pipes shall have a *flame-spread rating* throughout the material of not more than 25 in *buildings* of *noncombustible construction* and not more than 75 in *buildings* of *combustible construction*.

(4) Except as provided in Sentence (7), insulation and coverings on piping located in rooms and spaces other than the *service spaces* described in Sentence (3) shall have a *flame-spread rating* of not more than that required for the interior finish for the ceiling of the room or space.

(5) Except as provided in Sentence (7), where *combustible* insulation and covering is used on piping in *buildings* described in Subsection 3.2.6., they shall have a smoke developed classification of not more than 100.

(6) Pipes that are exposed to human contact shall be insulated so that the exposed surface does not exceed 70°C.

(7) No *flame-spread rating* or smoke developed classification limitations are required where *combustible* insulation and coverings are used on piping when such piping is

(a) located within a concealed space in a wall,

(b) located in a floor slab, or

(c) enclosed in a *noncombustible* raceway or conduit.

6.2.9.3. Clearances

(1) Clearances between *combustible* material and bare pipes carrying steam or hot water shall conform to Table 6.2.9.3.

Table 6.2.9.3.

Clearance between Steam or Hot Water Pipes and Combustible Material

Forming Part of Sentence 6.2.9.3.(1)

| Steam or Water Temperature, °C | Minimum Clearance, mm |
|--------------------------------|-----------------------|
| up to 120 | 15 |
| above 120 | 25 |
| Column 1 | 2 |

6.2.9.4. Surface Temperature

(1) The exposed surface temperature of a steam or hot water radiator shall not exceed 70°C unless precautions are taken to prevent human contact.

6.2.9.5. Protection

(1) Where a pipe carrying steam or hot water at a temperature above 120°C passes through a *combustible* floor, ceiling or wall, the construction shall be protected by a sleeve of metal or other *noncombustible* material not less than 50 mm larger in diameter than the pipe.

(2) Unprotected steam or hot water pipes that pass through a storage space shall be covered with not less than 25 mm of *noncombustible* insulation to prevent direct contact with the material stored.

6.2.9.6. Piping in Shafts

(1) Where piping for heating or *air-conditioning* systems is enclosed in a shaft, the requirements of Article 3.6.3.1. for shafts shall apply.

6.2.10. Refrigerating Systems and Equipment for Air-Conditioning

6.2.10.1. Cooling Units

(1) Where a cooling unit is combined with a fuel-fired *furnace* in the same duct system, the cooling unit shall be installed

(a) in parallel with the heating *furnace*,

(b) upstream of the *furnace* provided the *furnace* is designed for such application, or

(c) downstream of the *furnace* provided the cooling unit is designed to prevent excessive temperature or pressure in the refrigeration system.

6.2.11. Storage Bins

6.2.11.1. Storage Bins

(1) Service pipes passing through a storage bin for solid fuel shall be protected or so located as to avoid damage to the pipes.

(2) Except for fuel-thawing pipes, every pipe designed to operate at a temperature of 50°C or above shall be located where fuel cannot be stored in contact with it.

(3) A storage bin for solid fuel shall not be located above a sewer opening or drain opening.

(4) Storage bins for solid fuel shall be designed and constructed so that the air temperature in the bin or the surface temperature of any part of the floor or walls is below 50°C.

6.2.11.2. Ash Storage Bins

(1) Every ash storage bin shall be constructed of *noncombustible* material and, where the bin is not covered, the ceiling of the room in which it is located shall be of *noncombustible* material.

(2) Every opening in an ash storage bin shall be protected by a tight-fitting metal door with metal frame securely fastened to the bin.

Section 6.3. Chimneys and Venting Equipment**6.3.1. General****6.3.1.1. Requirement for Venting**

(1) Except as provided in Articles 6.3.1.2. and 6.3.1.3., the products of combustion from solid fuel-burning *appliances* shall be vented in conformance with the requirements in the applicable *appliance* installation standards listed in Article 6.2.1.5.

6.3.1.2. Masonry or Concrete Chimneys

(1) Rectangular *masonry or concrete chimneys* not more than 12 m in height shall conform to Part 9 if they serve *appliances* with a combined total rated heat output of 120 kW or less, or that serve fireplaces.

(2) *Masonry or concrete chimneys* other than those described in Sentence (1) shall be designed and installed in conformance with the appropriate requirements in NFPA 211, "Standard for Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances".

6.3.1.3. Metal Smoke Stacks

(1) Single wall metal smoke stacks shall be designed and installed in conformance with NFPA 211, "Standard for Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances".

6.3.1.4. Reserved**6.3.1.5. Access Ladders**

(1) Access ladders for *chimneys*, when provided, shall consist of steel or bronze rungs, built into the walls of the *chimneys*.

(2) Rungs for external ladders shall begin at not less than 2 500 mm from ground level.

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Plumbing**

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**Part 7
Plumbing****Section 7.1. General****7.1.1. Scope****7.1.1.1. Scope**

(1) The scope of this Part shall be as described in Section 2.1.

7.1.1.2. Industrial Systems

(1) This Part does not apply to industrial process systems unless the industrial process system is interconnected with the *plumbing system*, in which case the interconnection shall be so designed and installed so that the *plumbing system* is protected against contamination or malfunction that may be caused by the industrial system.

7.1.2. Application**7.1.2.1. Application**

(1) This Part applies to the design and *construction of plumbing*.

7.1.2.2. Alteration or Repair

(1) When an existing *building* is extended or subject to material alteration or repair, this Part is applicable

(a) to the design and *construction of plumbing* in the extensions and those parts of the *building* subject to material alteration and repair, and

(b) to *plumbing* which is adversely affected by the extension, alteration or repair.

7.1.3. Definitions and Abbreviations**7.1.3.1. Reserved****7.1.3.2. Definitions In Italics**

(1) In this Part,

Storey means the interval between two successive floor levels including *mezzanine* floors that contain *plumbing* or between a floor level and roof.

7.1.3.3. Abbreviations of Names and Organizations

(1) Reserved

7.1.3.4. Abbreviations of Words

(1) Reserved

7.1.4. Equivalents

(1) Reserved

7.1.5. Plumbing Facilities**7.1.5.1. Facilities Required**

(1) *Plumbing* facilities shall be provided in accordance with Subsection 3.7.4. and Section 9.31. of this Code.

7.1.5.2. Floor Drains

(1) Where gravity drainage to a *sanitary drainage system* is possible, a floor drain shall be installed in a basement forming part of a *dwelling unit*.

(2) Where gravity drainage to a *sanitary drainage system* is not possible, the floor drain required by Sentence (1) may be connected to a *storm drainage system*, dry well or drainage ditch provided it is located where it can receive only *clear water waste* or *storm sewage*.

(3) A floor drain shall be provided in a public laundry room, garbage room, incinerator room, *boiler* or heating room, serving more than one *dwelling unit*.

7.1.6. Service Connections**7.1.6.1. Sanitary Drainage Systems**

(1) Every *sanitary drainage system* shall be connected to a public *sanitary sewer*, a public combined sewer or a *private sewage disposal system*.

(2) A combined *building drain* or a combined *building sewer* shall not be installed.

7.1.6.2. Storm Drainage Systems

(1) Every *storm drainage system* shall be connected to a public *storm sewage* works, a public combined *sewage* works or a designated storm water disposal location but shall not be connected to a *sanitary sewage* works.

7.1.6.3. Water Distribution Systems

(1) Except as provided in Sentence (2), every *water distribution system* shall be connected to a public watermain or if no public watermain is available to a *potable private water supply system*.

(2) Where a supply of *potable water* is unavailable or insufficient to supply water to a *plumbing system*, non-potable water may be used for the flushing of water closets, urinals or the priming of *traps*, and the piping conveying the non-potable water shall be installed in conformance with Section 7.7.

7.1.6.4. Separate Services

(1) Piping in any *building* shall be connected to the public services separately from piping of any other *building*, except that an ancillary *building* on the same property may be served by the same service.

(2) No *plumbing* serving a *dwelling unit* shall be installed under another unit of the *building* unless the piping is located in a tunnel, pipe corridor, common basement or parking garage, so that the piping is *accessible* for servicing and maintenance throughout its length without encroachment on any private living space, but this Sentence does not prevent *plumbing* serving a unit located above another unit from being installed in or under the lower unit.

7.1.6.5. Private Sewers and Private Water Supply

(1) *Private sewers* and *private water supply* pipes shall be installed according to the Guidelines for the Design of Sanitary Sewage Work Systems, Guidelines for the Design of Storm Sewers and Guidelines for the Design of Water Distribution Systems issued by the Environmental Approvals and Projects Engineering Branch of the Ministry of the Environment.

7.1.7. Location of Fixtures**7.1.7.1. Lighting and Ventilation Requirements**

(1) *Plumbing fixtures* shall not be installed in a room that is not lighted and ventilated in accordance with the appropriate requirements in Parts 3 and 9.

7.1.7.2. Accessibility

(1) Every *fixture*, *plumbing appliance*, *interceptor*, *cleanout*, valve, device or piece of equipment shall be so located that it is readily *accessible* for use, cleaning and maintenance.

(2) Except for Eastern-Style toilets, where a water closet is installed in a washroom for *public use* it shall be of the elongated type and provided with a seat of the open front type.

Section 7.2. Materials and Equipment

7.2.1. General

7.2.1.1. Reserved

7.2.1.2. Exposure of Materials

(1) Where unusual conditions exist such as excessively corrosive *soil* or water, only materials suited for use in such locations shall be used.

(2) Materials and equipment used in a *drainage system* where excessively corrosive wastes are present shall be suitable for the purpose.

7.2.1.3. Restrictions on Re-Use

(1) Used materials and equipment, including *fixtures*, shall not be reused unless they meet the requirements of this Part for new materials and equipment and are otherwise satisfactory for their intended use.

(2) Materials and equipment that have been used for a purpose other than the distribution of *potable water* shall not be subsequently used in a *potable water system*.

7.2.1.4. Identification and Certification

(1) Every length of pipe and every fitting shall have cast, stamped or indelibly marked on it the maker's name or mark and the weight or class or quality of the product, or it shall be marked in accordance with the relevant standard, and such markings shall be visible after installation.

(2) Where a component of a *plumbing system* is required by this Code to comply with a standard and the compliance is not certified by a testing agency accredited by the Standards Council of Canada for the testing of the component in question and, when an inspector requests proof of the compliance, proof of compliance shall be produced by the person proposing to install or have installed the component, and without such proof the component shall not be installed as a permanent part of any *plumbing system*.

(3) The lack of certification markings on a product or *plumbing* component shall be regarded as proof, in the absence of evidence to the contrary that no certification exists.

(4) If a component of a *plumbing system* is required to be certified to a standard, the certification shall be made by a testing agency accredited for that purpose by the Standards Council of Canada.

7.2.1.5. Pipe or Piping

(1) Where the term pipe or piping and fittings is used, it shall also apply to tube or tubing and fittings unless otherwise stated.

7.2.1.6. Withstanding Pressure

(1) Piping, fittings and joints used in pressure sewer, forcemain or sump pump discharge applications shall be capable of withstanding at least one and one-half times the maximum potential pressure.

7.2.2. Fixtures

7.2.2.1. Surface Requirements

(1) Except for the area designed to be slip proof in such *fixtures*, every exposed area of a *fixture* shall have a smooth, hard corrosion-resistant surface that is free from flaws and blemishes that may interfere with cleaning.

7.2.2.2. Reserved

7.2.2.3. Showers

(1) Every shower receptor shall be constructed and arranged so that water cannot leak through the walls or floor.

(2) Not more than 6 shower heads shall be served by a single shower drain.

(3) Where two or more shower heads are served by a shower drain, the floor shall be sloped and the drain located so that water from one head cannot flow over the area that serves another head.

(4) Except for column showers, when a battery of shower heads is installed, the horizontal distance between two adjacent shower heads shall be at least 750 mm.

7.2.2.4. Concealed Overflows

(1) A dishwashing sink and a food preparation sink shall not have concealed overflows.

7.2.2.5. Lavatories

(1) A lavatory that does not have an overflow shall be equipped with a centre outlet waste fitting.

7.2.2.6. Trough Urinals

(1) No trough urinal shall be used as part of a *plumbing system*.

7.2.3. Traps and Interceptors

7.2.3.1. Traps

(1) Except as provided for in Sentence (2), every *trap* shall

(a) have a *trap seal depth* of at least 38 mm,

(b) be so designed that failure of the seal walls will cause exterior leakage, and

(c) have a water seal that does not depend on the action of moving parts.

(2) The *trap seal depth* on *fixtures* draining to an acid waste system shall be a minimum of 50 mm.

(3) Every *trap* that serves a lavatory, a sink or a laundry tray shall

(a) be provided with a *cleanout* plug of a minimum 3/4 in. size located at the lowest point of the *trap* and of the same material as the *trap*, except that a cast iron *trap* shall be provided with a brass *cleanout* plug, or

(b) be designed so that part of the *trap* can be completely removed by screwed connections for cleaning purposes.

(4) A bell *trap* or an S-*trap* shall not be installed in a *drainage system*.

(5) A *drum trap* shall not be installed in a *drainage system*.

(6) Except as permitted in Sentence (7), no *bottle trap* shall be used in a *plumbing system*.

(7) A *bottle trap* may be used on a laboratory sink or other *fixture* equipped with corrosion resistant fittings.

(8) No running *trap* shall be installed in a *plumbing system* unless an *accessible* handhole is provided for cleaning of the *trap*, and where the *trap* is too small to accommodate a handhole, a *cleanout* shall be provided.

7.2.3.2. Interceptors

(1) Every *interceptor* shall be designed so that it can be readily cleaned.

(2) Every grease *interceptor* shall be designed so that it does not become air bound.

7.2.3.3. Tubular Traps

(1) Tubular metal or plastic *traps* that conform to CAN/CSA-B125, "Plumbing Fittings" shall be used in *accessible* locations.

7.2.4. Pipe Fittings

7.2.4.1. T and Cross Fittings

(1) A T fitting shall not be used in a *drainage system* except to connect a *vent pipe*.

(2) A cross fitting shall not be used in a *drainage system*.

7.2.4.2. Sanitary T Fittings

(1) Reserved

(2) A double sanitary T fitting shall not be used to connect the *fixture drains* of two urinals where no *cleanout* fitting is provided above the connection.

(3) No pipe fitting, joint or connection that would tend to intercept solids or reduce the flow through a pipe by more than 10 per cent shall be used in a *plumbing system*.

7.2.4.3. One-Quarter Bends

(1) A 1/4 bend of 4 in. *size* or less that has a centre-line radius that is less than the *size* of the pipe shall not be used to join two *soil* or *waste pipes*.

(2) A 1/4 bend of 4 in. *size* or less shall not be used on a horizontal *building drain*, a *branch* of the *building drain*, or *building sewer* except to change direction from horizontal to vertical.

7.2.4.4. Fittings Restricted in Use

(1) No double Y, double TY, double T or double waste fitting shall be installed in a *nominally horizontal soil* or *waste pipe*.

7.2.4.5. Assembled Pipe or Tubing

(1) Pipe or tubing assembled to comprise a standard drain waste and venting system shall be connected with drain, waste and vent fittings in conformance with Table 7.2.4.5.

Forming Part of Sentence 7.2.4.5.(1)

| | |
|-------------------------------------|--|
| 1. Straight T | 6. Double Combination Y & 1/2 Bend or Double |
| 2. Double T or Cross | Long Turn TY |
| 3. Sanitary T or Short Turn TY | 7. Y |
| 4. Double Sanitary T or Short Turn | 8. Double Y |
| Double TY | 9. Double Waste Fitting |
| 5. Combination Y & 1/2 Bend or Long | |
| Turn TY | |

7.2.5. Non-Metallic Pipe and Fittings**7.2.5.1. Asbestos-Cement Drainage Pipe and Fittings**

(1) Except as provided in Sentence (2), asbestos-cement pipe and its fittings for use in a drain, waste or vent system shall conform to

- (a) CAN/CGSB-34.22, "Pipe, Asbestos-Cement, Drain", or
- (b) CSA B127.1, "Components for Use in Asbestos Cement Drain, Waste and Vent Systems".

(2) Asbestos-cement pipe and fittings used underground either outside a *building* or under a *building* shall conform to Sentence (1) or to

- (a) CAN/CGSB-34.9, "Pipe, Asbestos-Cement, Sewer",
- (b) CAN/CGSB-34.23, "Pipe, Asbestos-Cement, Sewer, House Connection", or
- (c) CSA B127.2, "Components for Use in Asbestos-Cement Building Sewer Systems".

7.2.5.2. Reserved**7.2.5.3. Concrete Pipe and Fittings**

(1) Concrete pipe shall conform to CSA A257 Series, "Standards for Circular Concrete Pipe and Manholes".

(2) Reserved

(3) Joints with external elastomeric gaskets shall be made with corrosion resistant external band type flexible mechanical couplings that conform to CAN/CSA-B602, "Mechanical Couplings for Drain, Waste, and Vent Pipe and Sewer Pipe".

(4) Concrete fittings field fabricated from lengths of pipe shall not be used.

(5) Concrete pipe shall not be used above ground inside a *building*.

(6) Precast reinforced circular concrete manhole sections, catch basins and fittings shall conform to CAN/CSA-A257.4-M, "Precast Reinforced Circular Concrete Manhole Sections, Catch Basins, and Fittings".

7.2.5.4. Vitrified Clay Pipe and Fittings

(1) Vitrified clay pipe and fittings shall be certified to CSA A60.1, "Vitrified Clay Pipe".

(2) Couplings and joints for vitrified clay pipe shall be certified to CSA A60.3, "Vitrified Clay Pipe Joints".

(3) Vitrified clay pipe and fittings shall not be used except for an underground part of a *drainage system*.

7.2.5.5. Polyethylene Water Pipe and Fittings

(1) Polyethylene water pipe and fittings shall be certified to CAN/CSA-B137.1, "Polyethylene Pipe, Tubing and Fittings for Cold Water Pressure Services", Series 160, and shall have a rated working pressure of 1034 kPa or more.

(2) Except as permitted in Sentence (4), polyethylene water pipe or tube shall only be used in underground installations of cold water *distributing pipe*.

(3) Butt fusion fittings for polyethylene pipe shall conform to ASTM D3261, "Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing".

(4) Cross-linked polyethylene pressure pipe or tube and fittings used in above-ground or underground installations of water *distributing pipe* shall be certified to CAN/CSA-B137.5, "Cross-linked Polyethylene (PEX) Tubing Systems for Pressure Applications".

7.2.5.6. PVC Pipe and Fittings

(1) PVC water pipe, fittings and solvent cement shall be certified to CAN/CSA-B137.3, "Rigid Poly (Vinyl Chloride) (PVC) Pipe for Pressure Applications" or CAN/CSA-B137.2, "PVC Injection-Moulded Gasketed Fittings for Pressure Applications", and have a minimum pressure rating of 1034 kPa.

(2) PVC water pipe and fittings in Sentence (1) shall not be used in a *hot water system*.

7.2.5.7. CPVC Pipe, Fittings and Solvent Cements

(1) CPVC hot and cold water pipe, fittings and solvent cements shall be certified to CSA B137.6, "CPVC Pipe, Tubing and Fittings for Hot and Cold Water Distribution Systems".

(2) The design temperature and design pressure of a CPVC piping system shall conform to the Standard referenced in Sentence (1).

7.2.5.8. Polybutylene Pipe and Fittings

(1) Polybutylene pipe and its associated fittings shall be certified to CAN3-B137.8, "Polybutylene (PB) Piping for Pressure Applications".

(2) Polybutylene pipe and fittings shall not be used for a continuously circulating hot water line or the first metre of any branch off of the continuously circulating hot water line.

7.2.5.9. Plastic Pipe, Fittings and Solvent Cement Used Underground

(1) Plastic pipe, fittings and solvent cement used underground outside a *building* or under a *building* in a *drainage system* shall be certified to

- (a) CAN/CSA-B181.1, "ABS Drain, Waste, and Vent Pipe and Pipe Fittings",
- (b) CAN/CSA-B181.2, "PVC Drain, Waste, and Vent Pipe and Pipe Fittings",
- (c) CAN/CSA-B182.1, "Plastic Drain and Sewer Pipe and Pipe Fittings",
- (d) CAN/CSA-B182.2, "PVC Sewer Pipe and Fittings, (PSM Type)",
- (e) CAN/CSA-B182.4, "Profile (Ribbed) PVC Sewer Pipe and Fittings",
- (f) CAN/CSA-B182.6, "Profile Polyethylene Sewer Pipe and Fittings",
- (g) CAN/CSA-B137.2, "PVC Injection-Moulded Gasketed Fittings for Pressure Applications", or
- (h) CAN/CSA-B137.3, "Rigid Poly (Vinyl Chloride) (PVC) Pipe for Pressure Applications".

(2) Except as permitted in Clauses (g) and (h), plastic pipe used as described in Sentence (1) shall have a stiffness equal or greater than 320 kPa.

7.2.5.10. Plastic Pipe, Fittings and Solvent Cement Used in Buildings

(1) Plastic pipe, fittings and solvent cement used inside or under a *building* in a *sanitary drainage system* or *venting system* shall be certified to

(a) CAN/CSA-B181.1, "ABS Drain, Waste, and Vent Pipe and Pipe Fittings", or

(b) CAN/CSA-B181.2, "PVC Drain, Waste, and Vent Pipe and Pipe Fittings".

(2) Plastic pipe, fittings and solvent cement used inside a *building* in a *storm drainage system* shall be certified to

(a) CAN/CSA-B181.1, "ABS Drain, Waste, and Vent Pipe and Pipe Fittings", or

(b) CAN/CSA-B181.2, "PVC Drain, Waste, and Vent Pipe and Pipe Fittings", or

(c) CAN/CSA-B182.1, "Plastic Drain and Sewer Pipe and Pipe Fittings", or

(d) CAN/CSA-B182.2, "PVC Sewer Pipe and Fittings, (PSM Type)".

(3) Plastic pipe used as described in Sentence (2) shall have a pipe stiffness equal or greater than 320 kPa.

(4) Requirements for *combustible* piping in relation to fire safety shall conform to Articles 3.1.5.15., 3.1.9.4., 9.10.9.6. and 9.10.9.7. of this Code.

(5) Where *noncombustible* piping pierces a *fire separation* or a fire stop, the requirements for fire stopping of Subsection 3.1.9., Articles 9.10.9.6. and 9.10.15.4. shall apply.

7.2.5.11. Transition Solvent Cement

(1) Solvent cement for transition joints shall conform to

(a) CAN/CSA-B181.1, "ABS Drain, Waste, and Vent Pipe and Pipe Fittings", or

(b) CAN/CSA-B181.2, "PVC Drain, Waste, and Vent Pipe and Pipe Fittings".

(2) Transition solvent cement shall only be used for joining an ABS *plumbing system* to a PVC *plumbing system*.

7.2.5.12. Polyethylene/Aluminum/Polyethylene Composite Pipe and Fittings

(1) PE/AL/PE composite pipe and fittings used for *potable water systems* shall conform to CAN/CSA-B137.9, "Polyethylene/Aluminum/Polyethylene Composite Pressure Pipe Systems".

(2) PE/AL/PE pipe and fittings shall not be used in a *hot water system*.

7.2.5.13. Crosslinked Polyethylene/Aluminum/Polyethylene Composite Pipe and Fittings

(1) PEX/AL/PEX composite pipe and fittings used for *potable water systems* shall conform to CAN/CSA-B137.10, "Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene Composite Pressure Pipe Systems".

lene/Aluminum/Crosslinked Polyethylene Composite Pressure Pipe Systems".

7.2.5.14. Polypropylene Pipe and Fittings

(1) Polypropylene pipe and fittings used for hot and cold *potable water systems* shall conform to CSA-B137.11, "Polypropylene (PP-R) Pipe and Fittings for Pressure Applications".

7.2.6. Ferrous Pipe and Fittings**7.2.6.1. Cast Iron Drainage and Vent Pipe and Fittings**

(1) Drainage piping, vent piping and fittings made of cast iron shall be certified to CSA B70, "Cast Iron Soil Pipe, Fittings and Means of Joining".

(2) Cast iron *soil pipe* and fittings shall not be used in a *water system*.

7.2.6.2. Cast Iron Fittings for Asbestos-Cement Drainage Pipe

(1) Cast iron fittings designed for use with asbestos-cement pipe for drainage purposes shall conform to the applicable requirements of CSA B127.1, "Components for Use in Asbestos Cement Drain, Waste and Vent Systems" or CSA B127.2, "Components for Use in Asbestos Cement Building Sewer Systems".

7.2.6.3. Threaded Cast Iron Drainage Fittings

(1) Threaded cast iron drainage fittings shall conform to ANSI B16.12, "Cast Iron Threaded Drainage Fittings".

(2) Threaded cast iron drainage fittings shall not be used in a *water system*.

7.2.6.4. Cast Iron Water Pipe

(1) Cast iron water pipes shall conform to ANSI/AWWA C151/A21.51, "Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids".

(2) Cement mortar lining for cast iron water pipes shall conform to ANSI/AWWA C104/A21.4, "Cement-Mortar Lining for Ductile-Iron and Gray-Iron Pipe and Fittings for Water".

(3) Iron fittings for cast iron or ductile-iron water pipes shall conform to ANSI/AWWA C110/A21.10, "Ductile-Iron and Gray-Iron Fittings, 3-in. Through 48-in., for Water and Other Liquids".

(4) Rubber gasket joints for cast iron and ductile-iron pressure pipe for water piping shall conform to ANSI/AWWA C111/A21.11, "Rubber-Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings".

7.2.6.5. Screwed Cast Iron Water Fittings

(1) Screwed cast iron water fittings shall conform to ANSI B16.4, "Cast Iron Threaded Fittings (Classes 125 and 250)".

(2) Screwed cast iron water fittings used in a *water system* shall be cement-mortar lined or galvanized.

(3) Screwed cast iron water fittings shall not be used in a *drainage system*.

7.2.6.6. Screwed Malleable Iron Water Fittings

(1) Screwed malleable iron water fittings shall conform to ANSI B16.3, "Malleable Iron Threaded Fittings (Classes 150 and 300)".

(2) Screwed malleable iron water fittings used in a *water system* shall be cement-mortar lined or galvanized.

(3) Screwed malleable iron water fittings shall not be used in a *drainage system*.

7.2.6.7. Steel Pipe

(1) Except as provided in Sentences (2) and (3), welded and seamless steel pipe shall not be used in a *plumbing system*.

(2) Galvanized steel pipe may be used in a *drainage system* or a *venting system* above ground inside a *building*.

(3) Galvanized steel pipe and fittings shall not be used in a *water distribution system* except

(a) in *buildings of industrial occupancy*, or

(b) for the repair of existing galvanized steel piping systems.

(4) Galvanized steel pipe and fittings shall conform to ASTM A53, "Pipe, Steel, Black and Hot Dipped, Zinc-Coated Welded and Seamless".

(5) Where galvanized steel pipe is used in a *drainage system*, it shall be used with drainage fittings.

(6) All steel pipe of 4 in. *size* and smaller shall be schedule 40 or heavier and fittings of less than 2 in. *size* shall be galvanized screw fittings.

7.2.6.8. Corrugated Steel Pipe and Couplings

(1) Corrugated steel pipe and couplings shall be certified to CAN3-G401, "Corrugated Steel Pipe Products".

(2) Corrugated steel pipe shall only be used underground outside a *building* in a *storm drainage system*.

(3) Couplings for corrugated steel pipe shall be constructed so that when installed they shall

(a) maintain the pipe alignment,

(b) resist the separation of adjoining lengths of pipe,

(c) prevent root penetration, and

(d) prevent the infiltration of surrounding material.

7.2.6.9. Sheet Metal Leaders

(1) A sheet metal *leader* shall not be used except above ground outside a *building*.

7.2.7. Non-Ferrous Pipe and Fittings

7.2.7.1. Copper and Brass Pipe

(1) Copper pipe shall conform to ASTM B42, "Seamless Copper Pipe, Standard Sizes".

(2) Brass pipe shall conform to ASTM B43, "Seamless Red Brass Pipe, Standard Sizes".

7.2.7.2. Brass or Bronze Pipe Flanges and Flanged Fittings

(1) Brass or bronze pipe flanges and flanged fittings shall conform to ANSI B16.24, "Bronze Pipe Flanges and Flanged Fittings (Class 150 and 300)".

7.2.7.3. Brass or Bronze Threaded Water Fittings

(1) Brass or bronze threaded water fittings shall conform to ANSI B16.15, "Cast Bronze Threaded Fittings (Classes 125 and 250)".

(2) Brass or bronze threaded water fittings shall not be used in a *drainage system*.

7.2.7.4. Copper Tube

(1) Copper tube in a *plumbing system* shall

(a) be certified to ASTM B88, "Seamless Copper Water Tube", or

(b) comply with ASTM B306, "Copper Drainage Tube (DWV)".

(2) The use of copper tube shall conform to Table 7.2.7.4.

(3) Copper tube used in a *plumbing appliance* shall conform to

(a) ASTM B88 "Seamless Copper Water Tube", or

(b) ASTM B68 "Seamless Copper Tube".

Table 7.2.7.4.

Permitted Use of Copper Tube and Pipe

Forming Part of Sentence 7.2.7.4.(2)

| Type of Copper Tube or Pipe | Water Distribution System | | Building Sewer | Drainage System | | Venting System | |
|-----------------------------|---------------------------|--------------|----------------|-----------------|--------------|----------------|--------------|
| | Under ground | Above ground | | Under ground | Above ground | Under ground | Above ground |
| K&L hard | N | P | P | P | P | P | P |
| K&L soft | P | P | N | N | N | N | N |
| M hard | N | P | N | N | P | N | P |
| M soft | N | N | N | N | N | N | N |
| DWV | N | N | N | N | P | N | P |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Note to Table 7.2.7.4.:

P-Permitted N-Not Permitted

7.2.7.5. Solder-Joint Drainage Fittings

- (1) Solder-joint fittings for *drainage systems* shall conform to
- (a) CSA B158.1, "Cast Brass Solder Joint Drainage, Waste and Vent Fittings", or
- (b) ANSI B16.29, "Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV".

(2) Solder-joint fittings for *drainage systems* shall not be used in a *water system*.

7.2.7.6. Solder-Joint Water Fittings

(1) Except as provided in Sentence (2), solder-joint fittings for *water systems* shall conform to

- (a) ANSI B16.18, "Cast Copper Alloy Solder Joint Pressure Fittings", or
- (b) ANSI B16.22, "Wrought Copper and Copper Alloy Solder Joint Pressure Fittings".

(2) Solder-joint fittings for *water systems* not made by casting or the wrought process shall conform to the applicable requirements of ANSI B16.18, "Cast Copper Alloy Solder Joint Pressure Fittings".

7.2.7.7. Flared-Joint Fittings for Copper Water Systems

(1) Flared-joint fittings for copper tube *water systems* shall conform to ANSI B16.26, "Cast Copper Alloy Fittings for Flared Copper Tubes".

(2) Flared-joint fittings for copper tube *water systems* not made by casting shall conform to the applicable requirements of ANSI B16.26, "Cast Copper Alloy Fittings for Flared Copper Tubes".

7.2.7.8. Lead Waste Pipe and Fittings

(1) Lead *waste pipe* and fittings shall conform to CSA B67, "Lead Service Pipe, Waste Pipe, Traps, Bends and Accessories".

(2) When there is a change in *size* of a lead closet bend, the change shall be in the vertical section of the bend or made in such a manner that there shall be no retention of liquid in the bend.

(3) Lead *waste pipe* and fittings shall not be used in a *water system* or for a *building sewer*.

7.2.7.9. Aluminum DWV Pipe and Components

(1) Drainage piping and vent piping made of aluminum and its components shall be certified to CAN/CSA-B281, "Aluminum Drain, Waste, and Vent Pipe and Components".

(2) Aluminum DWV pipe shall not be used in *water systems*.

(3) Aluminum drain *waste* and *vent pipe* to be buried underground shall be protected by a factory applied coating in accordance with CAN/CSA-B281, "Aluminum Drain, Waste, and Vent Pipe and Components".

7.2.8. Corrosion Resistant Materials**7.2.8.1. Pipe and Fittings**

(1) Pipes and fittings to be used for drainage and venting of acid and corrosive wastes shall conform to

- (a) ASTM A518M, "Specification for Corrosion-Resistant High-Silicon Iron Castings",
- (b) ASTM C1053, "Specification for Borosilicate Glass Pipe and Fittings for Drain, Waste, and Vent (DWV) Applications", or
- (c) CAN/CSA-B181.3, "Polyolefin Laboratory Drainage Systems".

7.2.9. Jointing Materials**7.2.9.1. Cement Mortar**

(1) Cement mortar shall not be used for jointing.

7.2.9.2. Wiping Solder and Caulking Lead

(1) Wiping solder and caulking lead shall conform to CSA B67, "Lead Service Pipe, Waste Pipe, Traps, Bends and Accessories".

(2) Solders for solder joint fittings shall conform to ASTM B32, "Solder Metal" in accordance with the recommended use.

(3) Solders and fluxes having a lead content in excess of 0.2 per cent shall not be used in a *potable water system*.

7.2.10. Miscellaneous Materials**7.2.10.1. Brass Floor Flanges**

(1) Brass floor flanges shall be certified to CSA B158.1, "Cast Brass Solder Joint Drainage, Waste and Vent Fittings".

(2) ABS floor flanges shall be certified to CAN/CSA-B181.1, "ABS Drain, Waste, and Vent Pipe and Pipe Fittings".

(3) PVC floor flanges shall be certified to CAN/CSA-B181.2, "PVC Drain, Waste, and Vent Pipe and Pipe Fittings".

(4) Cast iron, copper and aluminum floor flanges shall be suitable for the purpose.

7.2.10.2. Brass Screws, Bolts, Nuts and Washers

(1) Every screw, bolt, nut and washer shall be of brass or equally corrosion resistant material when used

- (a) to connect a water closet to a water closet flange,
- (b) to anchor the water closet flange to the floor,
- (c) to anchor the water closet to the floor, or
- (d) to hold *cleanout* covers or floor drain grates.

7.2.10.3. Cleanout Fittings

(1) Every plug, cap, nut or bolt that is intended to be removable from a ferrous fitting shall be of a non-ferrous material.

(2) A *cleanout* fitting that as a result of normal maintenance operations cannot withstand the physical stresses of removal and reinstallation or cannot ensure a gas-tight seal shall not be installed.

(3) A screw cap or test cap shall not be used as a *cleanout* plug or cover.

7.2.10.4. Groove and Shoulder Type Mechanical Pipe Couplings

(1) Groove and shoulder type mechanical pipe couplings shall conform to CSA B242, "Groove and Shoulder Type Mechanical Pipe Couplings".

(2) Mechanical Couplings for DWV and Sewer Pipe shall be certified to CAN/CSA-B602, "Mechanical Couplings for Drain, Waste, and Vent Pipe and Sewer Pipe".

7.2.10.5. Saddle Hubs

(1) Except as provided in Sentence (2), a saddle hub or fitting shall not be installed in *drainage systems, venting systems* or *water systems*.

(2) A saddle hub or saddle clamp may be installed in a *building drain* or *building sewer* of nominal diameter not less than eight inches and that is in service provided that the connecting *branch* is at least two pipe sizes smaller than the run of the *building drain* or *building sewer* to which it is connected.

7.2.10.6. Supply and Waste Fittings

(1) Supply and waste fittings shall be certified to CAN/CSA-B125, "Plumbing Fittings".

7.2.10.7. Shower Valves

(1) Except as provided for in Sentence (2), all shower valves shall be pressure balanced or thermostatic mixing valves, conforming to CAN/CSA-B125, "Plumbing Fittings".

(2) Pressure balanced or thermostatic mixing valves shall not be required for showers where the hot water supply for such showers are controlled by a master thermostatic mixing valve conforming to CAN/CSA-B125, "Plumbing Fittings".

(3) Pressure-balanced or thermostatic-mixing valves shall be

- (a) designed such that the outlet temperature does not exceed 49°C, or
- (b) equipped with high-limit stops which shall be adjusted to a maximum hot water setting of 49°C.

7.2.10.8. Direct Flush Valves

(1) Every direct flush valve shall

- (a) open fully and close positively under service pressure,
- (b) complete its cycle of operation automatically,
- (c) be provided with a means of regulating the volume of water that it discharges, and
- (d) be provided with a *vacuum breaker* unless the *fixture* is designed so that *back-siphonage* cannot occur.

7.2.10.9. Drinking Fountain Bubblers

(1) The orifice of every drinking fountain bubbler shall

- (a) be of the shielded type, and
- (b) direct the water upward to an angle of approximately 45°.

(2) Every drinking fountain bubbler shall include a means of regulating the flow to the orifice.

7.2.10.10. Back-Siphonage Preventers and Backflow Preventers

(1) Except as provided in Sentence (2) *back-siphonage preventers* and *backflow preventers* shall be certified to

- (a) CAN/CSA-B64.0, "Definitions, General Requirements and Test Methods for Vacuum Breakers and Backflow Preventers",
- (b) CAN/CSA-B64.1.1, "Vacuum Breakers, Atmospheric Type (AVB)",
- (c) CAN/CSA-B64.1.2, "Vacuum Breakers, Pressure Type (PVB)",
- (d) CAN/CSA-B64.2, "Vacuum Breakers, Hose Connection Type (HCVB)",
- (e) CAN/CSA-B64.2.1, "Vacuum Breakers, Hose Connection Type (HCVB) with Manual Draining Feature,"
- (f) CAN/CSA-B64.2.2, "Vacuum Breakers, Hose Connection type (HCVB) with Automatic Draining Feature,"
- (g) CAN/CSA-B64.3, "Backflow Preventers, Dual Check Valve with Atmospheric Port Type (DCAP)",
- (h) CAN/CSA-B64.4, "Backflow Preventers, Reduced Pressure Principle Type (RP)",
- (i) CAN/CSA-B64.5, "Backflow Preventers, Double Check Valve Type (DCVA)",
- (j) CAN/CSA-B64.6, "Backflow Preventers, Dual Check Valve Type (DuC)",
- (k) CAN/CSA-B64.7, "Vacuum Breakers, Laboratory Faucet Type (LFVP)",
- (l) CAN/CSA-B64.8, "Backflow Preventers, Dual Check with Intermediate Vent Type (DuCV)", or
- (m) CAN/CSA-B64.10, "Backflow Prevention Devices - Selection, Installation, Maintenance and Field Testing".

(2) *Back-siphonage preventers* for tank type water closets shall be certified to CAN/CSA-B125, "Plumbing Fittings".

7.2.10.11. Relief Valves

(1) Temperature relief, pressure relief, combined temperature and pressure relief and vacuum relief valves shall conform to CAN1-4.4, "Temperature, Pressure, Temperature and Pressure Relief Valves and Vacuum Relief Valves", or ANSI Z21.22, "Relief Valves and Automatic Gas Shut-off Devices for Hot Water Supply Systems".

7.2.10.12. Reducing Valves

(1) Direct acting water pressure reducing valves for domestic water supply systems shall conform to CSA-B356, "Water Pressure Reducing Valves for Domestic Water Supply Systems".

7.2.10.13. Solar Domestic Hot Water

(1) Equipment for solar heating of *potable* water shall conform to CAN/CSA-F379.1, "Solar Domestic Hot Water Systems (Liquid to Liquid Heat Transfer)".

7.2.10.14. Vent Pipe Flashing

(1) Flashing fabricated on-site for *vent pipes* shall be fabricated from

- (a) copper sheet at least 0.33 mm thick,
- (b) aluminum sheet at least 0.61 mm thick,
- (c) alloyed zinc sheet at least 0.35 mm thick,
- (d) lead sheet at least 2.16 mm thick,
- (e) galvanized steel sheet at least 0.41 mm thick, or
- (f) polychloroprene (neoprene) at least 2.89 mm thick.

(2) Prefabricated flashing for *vent pipes* shall be certified to CSA B272, "Prefabricated Self-Sealing Vent Flashings".

7.2.11. Water Service Pipes and Fire Service Mains**7.2.11.1. Design, Construction, Installation and Testing**

(1) Except as provided in Articles 7.2.11.2., 7.2.11.3., 7.2.11.4. and 7.3.7.2, the design, construction, installation and testing of *fire service mains* and *water service pipe* combined with *fire service mains* shall be in conformance with NFPA 24, "Standard for the Installation of Private Fire Service Mains and Their Appurtenances".

7.2.11.2. Certification or Conformance

(1) *Water service pipes* and *fire service mains* shall be certified or conform to the standards for the materials listed in Table 7.2.11.2.

7.2.11.3. Tracer Wire

(1) Except as provided in Sentence (2), a 14 gauge TW solid copper light coloured plastic coated tracer wire shall be attached to every non-metallic *water service pipe* or *fire service main*.

(2) Where a *water service pipe* or *fire service main* is detectable without the tracer wire referenced in Sentence (1), the tracer wire may be omitted.

7.2.11.4. Required Check Valve

(1) Where a *water service pipe* or a *fire service main* is supplied by more than one *water works*, a *check valve* shall be installed at each *water works* connection.

Table 7.2.11.2.

Water Service Pipe and Fire Service Main Materials

Forming Part of Sentence 7.2.11.2.(1)

| Material | Standard | Limitations |
|---|--|--|
| Polyethylene pipe and fittings | certified to CAN/CSA-B137.1, "Polyethylene Pipe, Tubing and Fittings for Cold Water Pressure Services" | Pipe and fittings must have a rated working pressure of 1034 kPa or more. Can only be used in underground installations. |
| Cross-linked polyethylene pressure pipe or tube and fittings | certified to CAN/CSA-B137.5, "Cross-linked Polyethylene (PEX) Tubing Systems for Pressure Applications" | |
| PVC pipe and fittings | certified to CAN/CSA-B137.3, "Rigid Poly (Vinyl Chloride) (PVC) Pipe for Pressure Applications", or certified to CAN/CSA-B137.2, "PVC Injection-Moulded Gasketed Fittings for Pressure Applications" | Pipe and fittings must have a rated working pressure of 1034 kPa or more |
| CPVC pipe and fittings | certified to CAN/CSA-B137.6, "CPVC Pipe, Tubing and Fittings for Hot and Cold Water Distribution Systems" | The design temperature and pressure shall conform to the requirements of the CSA B137.6, "CPVC Pipe, Tubing and Fittings for Hot and Cold Water Distribution Systems" |
| Polybutylene pipe and fittings | certified to CAN/CSA-B137.7, "Polybutylene (PB) Piping for Cold Water Distribution Systems" | Pipe must have an SDR of 11 or less |
| Cast iron water pipe | conform to ANSI/AWWA C151/A21.51, "Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids" | Pipe shall have a cement mortar lining conforming to ANSI/AWWA C104/A21.4, "Cement-Mortar Lining for Ductile-Iron and Gray-Iron Pipe and Fittings for Water" |
| Iron fittings for cast iron or ductile-iron water pipes | conform to ANSI/AWWA C110/A21.10, "Ductile-Iron and Gray-Iron Fittings, 3-in. Through 48 in., for Water and Other Liquids" | Pipe shall have a cement mortar lining conforming to ANSI/AWWA C104/A21.4, "Cement-Mortar Lining for Ductile-Iron and Gray-Iron Pipe and Fittings for Water" |
| Rubber gasket joints for cast iron and ductile-iron water pipes | conform to ANSI/AWWA C111/A21.11, "Rubber Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings" | |
| Screwed cast iron water fittings | conform to ANSI B16.4, "Cast Iron Threaded Fittings (Classes 125 and 250)" | Screwed cast iron water fittings shall be cement-mortar lined or galvanized |
| Type K soft copper tube | certified to ASTM B88, "Seamless Copper Water Tube" | |
| Solder-joint fittings for copper water systems | conform to ANSI B16.18, "Cast Copper Alloy Solder Joint Pressure Fittings", or conform to ANSI B16.22, "Wrought Copper and Copper Alloy Solder Joint Pressure Fittings" | Solder-joint fittings not made by casting or the wrought process shall conform to the applicable requirements of ANSI B16.18, "Cast Copper Alloy Solder Joint Pressure Fittings" |
| Flared-joint fittings for copper water systems | conform to ANSI B16.26, "Cast Copper Alloy Fittings for Flared Copper Tubes" | Flared-joint fittings not made by casting shall conform to ANSI B16.26, "Cast Copper Alloy Fittings for Flared Copper Tubes" |
| PE/AL/PE pipe and fittings | certified to CAN/CSA B137.9, "Polyethylene/Aluminum/Polyethylene Composite Pressure Pipe Systems" | |
| PEX/AL/PEX pipe and fittings | certified to CAN/CSA B137.10, "Crosslinked Polyethylene/ Aluminum/Crosslinked Polyethylene Composite Pressure Pipe Systems" | |
| Column 1 | 2 | 3 |

Section 7.3. Piping**7.3.2. Construction and Use of Joints****7.3.1. Application****7.3.2.1. Caulked Lead Drainage Joints****7.3.1.1. Application**

(1) This Section applies to the *construction* and use of joints and connections, and the arrangement, protection, support and testing of piping.

(1) Every caulked lead drainage joint shall be firmly packed with oakum and tightly caulked with lead to a depth of at least 25 mm.

(2) No paint, varnish or other coating shall be applied on the lead until after the joint has been tested.

(3) Caulked lead drainage joints shall not be used except for cast iron pipe in a *drainage system* or *venting system*, or between such pipe, and

- (a) other ferrous pipe,
- (b) brass and copper pipe,
- (c) a caulking ferrule, or
- (d) a *trap standard*.

(4) A length of hub and spigot pipe and pipe fittings in a *drainage system* shall be installed with the hub at the upstream end.

7.3.2.2. Wiped Joints

(1) Wiped joints shall not be used except for sheet lead or lead pipe, or between such pipe and copper pipe or a ferrule.

(2) Every wiped joint in straight pipe shall

- (a) be made of solder,
- (b) have an exposed surface on each side of the joint at least 19 mm wide, and
- (c) be at least 10 mm thick at the thickest part.

(3) Every wiped flanged joint shall be reinforced with a lead flange that is at least 19 mm wide.

7.3.2.3. Screwed Joints

(1) In making a screwed joint the ends of the pipe shall be reamed or filed out to the *size* of the bore and all chips and cuttings shall be removed.

(2) No pipe-joint cement or paint shall be applied to the internal threads.

(3) Aluminum DWV pipe shall not be used with a screwed joint.

7.3.2.4. Solder Joints

(1) In making a soldered joint the surface to be soldered shall be cleaned bright and the joint shall be properly fluxed, made with solder and thoroughly cleaned of all residue.

(2) Aluminum DWV pipe shall not be used with soldered joints.

7.3.2.5. Flared Joints

(1) In making a flared joint the pipe shall be expanded with a proper flaring tool.

(2) Flared joints shall not be used for hard (drawn) copper tube.

7.3.2.6. Burned Lead Joints

(1) In making a burned lead joint the lead shall be lapped and fused to form a weld that is at least 1-1/2 times as thick as the wall of the pipe.

(2) In lead pipe the width of the weld shall be at least

- (a) 13 mm where the *size* of the pipe is less than 3 in.,
- (b) 16 mm where the *size* of the pipe is 3 in., or

(c) 19 mm where the *size* of the pipe is 4 in.

(3) In sheet lead the width of the weld shall be as specified in Table 7.3.2.6.

Table 7.3.2.6.

Minimum Permitted Width of Weld for Sheet Lead

Forming Part of Sentence 7.3.2.6.(3)

| Weight of Sheet Lead, kg/m ² | Minimum Width of Weld, mm |
|---|---------------------------|
| 12.2 to 14.6 | 6 |
| 19.5 to 24.4 | 10 |
| 29.3 to 39.1 | 20 |
| 48.8 to 58.6 | 25 |
| 58.6 to 146.5 | 32 |
| Column 1 | 2 |

7.3.2.7. Mechanical Joints

(1) Mechanical joints shall be made with compounded elastomeric couplings or rings held by stainless steel or cast iron clamps or contained within a compression connection or groove and shoulder type mechanical coupling.

7.3.2.8. Cold-Caulked Joints

(1) Cold-caulked joints shall not be used except for bell and spigot pipe in a *water system*, a *drainage system* or a *venting system*.

(2) The caulking compound used in cold-caulked joints shall be applied according to the manufacturer's directions.

(3) Every cold-caulked joint in a *drainage system* shall be firmly packed with oakum and tightly caulked with cold caulking compound to a depth of at least 25 mm.

(4) Every cold-caulked joint in a *water system* shall be made by tightly caulking the entire depth of the socket with caulking compound.

7.3.3. Joints and Connections

7.3.3.1. Drilled and Tapped Joints

(1) Except as provided in Sentences (2) to (4), no *water distributing pipe*, *drainage pipe* or fittings shall be drilled, tapped or swaged.

(2) A *water distributing pipe* may be drilled or tapped to provide for a mechanically extracted T in copper tubing of Type L or K provided that all branch connections shall be notched and dimpled to limit depth of insertion and conform to the inner contour of the main.

(3) A copper *water distributing pipe* of 1 in. *size* or larger may be mechanically swaged to permit the joining of other copper pipe of equal *size*.

(4) A *drainage pipe* or fitting may be drilled or tapped

- (a) to provide for the connection of a *trap seal primer line*,
- (b) to connect a device designed to dispense germicidal or odour control chemicals or *trap seal water* to a floor drain downstream of a *vacuum breaker* or flush valve in a flush tube connected to a *sanitary unit*,
- (c) to provide a hole for a *branch connection* to a *drainage pipe*, where the *branch connection* is made with a saddle hub as

permitted by Article 7.2.10.5. and where the hole is drilled to provide a smooth clean hole of the required *size* and orientation, or

- (d) to provide for the connection of pipe or fittings to metal or rigid plastic pipe and fittings where the pipe or fittings are thick enough to be threaded or are bossed for tapping.

(5) No pipe adaption shall be made by the use of a bushing that leaves a square edge or shoulder on the inside of the pipe or fitting.

7.3.3.2. Reserved

7.3.3.3. Prohibition of Welding of Pipes and Fittings

- (1) Cast iron *soil pipe* and fittings shall not be welded.
- (2) Galvanized steel pipe and fittings shall not be welded.
- (3) Aluminum DWV pipe shall not be welded.

7.3.3.4. Unions and Slip Joints

(1) Running thread and packing nut connections and unions with a gasket seal shall not be used downstream of a *trap weir* in a *drainage system* or in a *venting system*.

- (2) A slip joint shall not be used
 - (a) in a *venting system*, or
 - (b) in a *drainage system*, except to connect a *fixture trap* to a *fixture drain* in an *accessible* location.

7.3.3.5. Increaser or Reducer

(1) Every connection between two pipes of different *size* shall be made with an increaser or a reducer fitting installed so that it will permit the system to be completely drained.

7.3.3.6. Burned Lead Joints

- (1) Every joint in hard lead shall be made with a burned lead joint.

7.3.3.7. Dissimilar Connections

(1) Adapters, connectors or mechanical joints used to join dissimilar materials shall be designed to accommodate the required transition.

7.3.3.8. Connection of Roof Drain to Leader

(1) Every *roof drain* shall be securely connected to a *leader* and provision shall be made for expansion.

7.3.3.9. Connection of Floor Outlet Fixtures

(1) Every pedestal urinal, floor-mounted water closet or *S-trap standard* shall be connected to a *fixture drain* by a floor flange, except that a cast iron *trap standard* may be caulked to a cast iron pipe.

(2) Except as provided in Sentence (3), every floor flange shall be of brass.

(3) Where cast iron or plastic pipe is used, a floor flange of the same material may be used.

(4) Every floor flange shall be securely set on a firm base and bolted to the *trap* flange of the *fixture*, and every joint shall be sealed with a natural rubber, synthetic rubber or asbestos graphite gasket, or with a closet setting compound.

(5) Where a lead water closet stub is used, the length of the stub below the floor flange shall be at least 75 mm.

7.3.3.10. Expansion and Contraction

(1) The design and installation of every piping system shall, where necessary, include means to accommodate expansion and contraction of the piping system caused by temperature change or movement of the *soil*.

7.3.3.11. Copper Tube

- (1) Types M and DWV copper tube shall not be bent.
- (2) Aluminum DWV pipe shall not be bent.
- (3) Bends in copper tubing of soft or bending temper shall be made with tools manufactured and sized for the purpose.

7.3.3.12. Indirect Connections

(1) Where a *fixture* or device is *indirectly connected*, the connections shall be made by terminating the *fixture drain* above the *flood level rim* of a *directly connected fixture* to form an *air break*.

- (2) The size of the *air break* shall be at least 25 mm.

7.3.4. Support of Piping

7.3.4.1. Capability of Support

(1) Piping shall be provided with support that is capable of keeping the pipe in alignment and bearing the weight of the pipe and its contents.

(2) Every floor or wall mounted water closet bowl shall be securely attached to the floor or wall by means of a flange and shall be stable.

(3) Every wall mounted *fixture* shall be supported so that no strain is transmitted to the piping.

7.3.4.2. Independence of Support

(1) Piping, *fixtures*, tanks or devices shall be supported independently of each other.

7.3.4.3. Insulation of Support

(1) Where a hanger or support for copper tube or brass or copper pipe is of a material other than brass or copper, it shall be suitably separated and electrically insulated from the pipe to prevent galvanic action.

(2) Where a hanger or support for aluminum DWV pipe is of a metal other than aluminum, the hanger or support shall be suitably separated and electrically insulated from the pipe.

7.3.4.4. Support for Vertical Piping

(1) Except as provided in Sentences (2) and (3), vertical piping shall be supported at its base and at the floor level of alternate *storeys* by metal rests, each of which can bear the weight of pipe that is between it and the metal rest above it.

- (2) The maximum spacing of supports shall be 7.5 m.

(3) The maximum spacing of supports for PE/AL/PE and PEX/AL/PEX composite pipe shall be 2 500 mm.

7.3.4.5. Support for Horizontal Piping

(1) *Nominally horizontal* piping that is inside a *building* shall be braced to prevent swaying and buckling and to control the effects of thrust.

(2) *Nominally horizontal* piping shall be supported so that

(a) galvanized iron or steel pipe is supported at intervals not exceeding

(i) 3.75 m if the pipe size is 6 in. or more, and

(ii) 2 500 mm if the pipe size is less than 6 in.,

(b) lead pipe is supported throughout its length,

(c) cast iron pipe is supported

(i) at or adjacent to each hub or joint,

(ii) at intervals not exceeding 3 m, and

(iii) at intervals not exceeding 1 000 mm if the pipe has mechanical joints and the length of pipe between adjacent fittings is 300 mm or less,

(d) asbestos-cement pipe is supported

(i) at intervals not exceeding 2 000 mm or have two supports for every 4 m length of pipe, and

(ii) at intervals not exceeding 1 000 mm where the length of pipe between adjacent fittings is 300 mm or less,

(e) ABS or PVC plastic DWV pipe is supported

(i) at intervals not exceeding 1 200 mm,

(ii) at the ends of *branches*,

(iii) at changes of direction or elevation, and

(iv) if the pipe is a *fixture drain* that is more than 1 000 mm in length, as close as possible to the *trap*,

(f) plastic water pipe is supported at intervals not exceeding 1 000 mm,

(g) copper tube and copper and brass pipe is supported at intervals not exceeding

(i) 3 m if the tube or pipe is hard temper and larger than 1 in. in size,

(ii) 2 500 mm if the tube or pipe is hard temper and 1 in. in size or less, and

(iii) 2 500 mm if the tube is soft temper,

(h) aluminum DWV pipe is supported

(i) at intervals not greater than 3 m,

(ii) at both sides of all joints,

(iii) at all *branch* ends,

(iv) at all points where there is a change in direction, and

(v) as close to all *traps* as possible,

(i) supports and hangers for aluminum DWV pipe shall have a broad support base and shall be free of burrs and rough edges to prevent abrasion of the pipe,

(j) where joints in the piping are less rigid than the pipe, the support points shall be selected so as to minimize the shear and bending forces imposed on the joints,

(k) PE/AL/PE or PEX/AL/PEX composite pipe is supported at intervals not exceeding 1 m, and

(l) PP-R plastic pipe is supported

(i) at intervals not exceeding 1 000 mm

(ii) at the end of *branches*, and

(iii) at changes of direction and elevation.

(3) Where plastic pipe or a composite pipe incorporating a plastic component is installed

(a) the pipe shall be aligned without added strain on the piping,

(b) the pipe shall not be bent or pulled into position after being welded or joined, and

(c) hangers shall not compress, cut or abrade the pipe.

(4) Where hangers are used to support *nominally horizontal* piping they shall be

(a) metal rods of at least 9.5 mm diam. for pipe over 4 in. in size, and

(b) solid or perforated metal strap hangers for pipe 4 in. or less in size.

(5) Where a hanger is attached to concrete or masonry, it shall be fastened by metal or expansion-type plugs that are inserted or built into the concrete or masonry.

7.3.4.6. Support for Underground Horizontal Piping

(1) Except as provided in Sentence (2), *nominally horizontal* piping that is underground shall be supported on a base that is firm and continuous under the whole of the pipe.

(2) *Nominally horizontal* piping installed underground that is not supported as described in Sentence (1) may be installed using hangers fixed to a foundation or structural slab provided that the hangers are capable of keeping the pipe in alignment and supporting the weight of the pipe, its contents and the fill over the pipe.

7.3.4.7. Support for Vent Pipe Above a Roof

(1) Where a *vent pipe* terminates above the surface of a roof it shall be supported or braced to prevent misalignment.

7.3.4.8. Compression Fittings

(1) No compression fitting connecting to plain end pipe or tube shall be used in a *plumbing system* unless the pipe or tube and fittings are sufficiently stayed, clamped, anchored or buttressed so as to prevent separation during normal service of the system allowing for surge pressures.

7.3.4.9. Thrust Restraint of Water Service Pipes

(1) Pipe clamps and tie-rods, thrust blocks, locked mechanical or push-on joints, mechanical joints utilizing set screw retainer glands, or other suitable means of thrust restraint shall be provided at each change of direction of a *water service pipe* 4 in. or more in size and at all tees, plugs, caps and bends.

(2) Backing for underground *water service pipes* shall be placed

(a) between undisturbed earth and the fitting to be restrained and shall be of sufficient bearing area to provide adequate resistance to the thrust to be encountered, and

(b) so that the joints will be *accessible* for inspection and repair.

(3) Concrete thrust blocks shall have a minimum compressive strength of not less than 10 MPa after 28 days.

(4) Thrust blocks shall not be used to restrain vertical pipe.

7.3.5. Protection of Piping**7.3.5.1. Backfill of Pipe Trench**

(1) Where piping is installed underground, the backfill shall be carefully placed and tamped to a height of 300 mm over the top of the pipe and shall be free of stones, boulders, cinders and frozen earth.

7.3.5.2. Protection of Non-Metallic Pipe

(1) Where asbestos-cement drainage pipe or vitrified clay is located less than 600 mm below a basement floor and the floor is constructed of other than 75 mm or more of concrete, the pipe shall be protected by a 75 mm layer of concrete installed above the pipe.

7.3.5.3. Isolation from Loads

(1) Where piping passes through or under a wall, it shall be installed so that the wall does not bear on the pipe.

7.3.5.4. Protection from Frost

(1) Where piping may be exposed to freezing conditions it shall be protected from frost.

7.3.5.5. Protection from Mechanical Damage

(1) *Plumbing*, piping and equipment exposed to mechanical damage shall be protected.

7.3.5.6. Spatial Separation

(1) Except as permitted in Sentence (2), a buried *water service pipe* shall be separated from the *building drain*, *building sewer* and a *sewage system* subject to Part VIII of the *Environmental Protection Act*, by not less than 2 440 mm measured horizontally, of undisturbed or compacted earth.

(2) The *water service pipe* may be closer than 2 440 mm or be placed in the same trench with the *building drain* or *building sewer* if

(a) (i) the bottom of the *water service pipe* at all points is at least 500 mm above the top of the *building drain* or *building sewer*, and

(ii) when in a common trench with the *building drain* or *building sewer*, the *water service pipe* is placed on a shelf at one side of the common trench,

(b) the *water service pipe* is constructed of a single run of pipe with no joints or fittings between the street line or source of supply on the property and the inside face of the *building*, or

(c) the *building drain* or *building sewer* is constructed of piping which is pressure tested in accordance with Subsection 7.3.7. at 345 kPa.

(3) A buried *water service pipe* shall be constructed of a single run of pipe with no joints or fittings between the street line or source of supply on the property and the inside face of the *building* if the *water service pipe* is less than 15 m from

(a) a *sewage system* subject to Part VIII of the *Environmental Protection Act*, or

(b) a source of pollution other than a *sewage system* subject to Part VIII of the *Environmental Protection Act*.

7.3.6. Testing of Drainage and Venting Systems**7.3.6.1. Tests and Inspection of Drainage or Venting Systems**

(1) Except in the case of an external *leader*, after a section of *drainage system* or a *venting system* has been roughed in, and before any *fixture* is installed or piping is covered, a water or an air test shall be conducted.

(2) Where a *chief building official* requires a final test, it shall be carried out after every *fixture* is installed and before any part of the *drainage system* or *venting system* is placed in operation.

(3) Where a prefabricated system is assembled off the *building site* in such a manner that it cannot be inspected and tested on site, off-site inspections and tests shall be conducted.

(4) Where a prefabricated system is installed as part of a *drainage system* and *venting system*, all other *plumbing work* shall be tested and inspected and a final test shall be carried out on the complete system.

(5) A ball test shall be carried out on a *sanitary building drain*, *sanitary building sewer*, *storm building drain* and a *storm building sewer* buried underground.

7.3.6.2. Tests of Pipes in Drainage Systems

(1) Every pipe in a *drainage system*, except an external *leader* or *fixture outlet pipe*, shall be capable of withstanding without leakage a water test, air test and final test.

7.3.6.3. Tests of Venting Systems

(1) Every *venting system* shall be capable of withstanding without leakage a water test, air test and final test.

7.3.6.4. Water Tests

(1) Where a water test is made it shall be applied to

(a) the system as a whole, or

(b) sections of the system, each of which is at least 3 m high and includes at least 1 500 mm of the section below.

(2) In making a water test

(a) every opening except the highest shall be tightly closed with a testing plug or a test cap, and

(b) the system or the section shall be kept filled with water for 15 min.

7.3.6.5. Air Tests

- (1) Where an air test is made
 - (a) every opening in the system shall be closed,
 - (b) air shall be forced into the system until a pressure of 35 kPa is created, and
 - (c) this pressure shall be maintained for 15 min without the addition of more air.

7.3.6.6. Final Tests

- (1) Where a final test is made
 - (a) every trap shall be filled with water,
 - (b) the bottom of the system being tested shall terminate at the building trap, test plug or cap,
 - (c) except as provided in Sentence (2), smoke from smoke-generating machines shall be forced into the system,
 - (d) when the smoke appears from all roof terminals they shall be closed, and
 - (e) a pressure equivalent to a 25 mm water column shall be maintained for 15 min without the addition of more smoke.

(2) The smoke referred to in Clauses 7.3.6.6.(1)(c) and (d) may be omitted provided the roof terminals are closed and the system is subjected to an air pressure equivalent to a 25 mm water column maintained for 15 min without the addition of more air.

7.3.6.7. Ball Tests

(1) Where a ball test is made, a hard ball dense enough not to float shall be rolled through the pipe.

(2) The diameter of the ball shall be not less than 50 mm where the size of the pipe is 4 in. or more.

7.3.7. Testing of Potable Water Systems**7.3.7.1. Application of Tests**

(1) After a section of a *potable water system* has been completed, and before it is placed in operation, a water test or an air test shall be conducted.

(2) A test may be applied to each section of the system or to the system as a whole.

(3) Where a prefabricated system is assembled off the *building site* in such a manner that it cannot be inspected and tested on site, off-site inspections and tests shall be conducted.

(4) Where a prefabricated system is installed as part of a *water system*, all other *plumbing work* shall be tested and inspected, and the complete system shall be pressure tested.

7.3.7.2. Tests of Potable Water Systems

- (1) Every *potable water system* shall be capable of
 - (a) withstanding without leakage a water pressure that is at least 1000 kPa for at least 1 h, or

- (b) withstanding for at least 2 h without a drop in pressure an air pressure that is at least 700 kPa.

7.3.7.3. Water Tests

(1) Where a water test is made all air shall be expelled from the system before *fixture* control valves or faucets are closed.

- (2) *Potable water* shall be used to test a *potable water system*.

Section 7.4. Drainage Systems**7.4.1. Application****7.4.1.1. Application of Drainage Systems**

(1) This Section applies to *sanitary drainage systems* and *storm drainage systems*.

7.4.2. Connections to Drainage Systems**7.4.2.1. Connections to Sanitary Drainage Systems**

(1) Every *fixture* shall be *directly connected* to a *sanitary drainage system*, except that

- (a) drinking fountains may be
 - (i) *indirectly connected* to a *sanitary drainage system*, or
 - (ii) connected to a *storm drainage system* provided that where the system is subject to *backflow*, a *check valve* is installed in the fountain waste pipe,
- (b) laundry plumbing appliances may be *indirectly connected* to a *sanitary drainage system*,
- (c) fixtures or plumbing appliances, other than floor drains, except as provided in Sentence 7.1.5.2.(2), that discharge only *clear water waste* may be connected to a *storm drainage system*,
- (d) the following devices shall be *indirectly connected* to a *drainage system*
 - (i) a device for the display, storage, preparation or processing of food or drink,
 - (ii) a sterilizer,
 - (iii) a device that uses water as a cooling or heating medium,
 - (iv) a water operated device,
 - (v) a water treatment device,
 - (vi) a drain or overflow from a *water system* or a heating system, or
 - (vii) a drain line from a HVAC system or equipment,
- (e) fixtures that have a hydraulic load totaling not more than 1-1/2 fixture units may be connected to a vertical section of a circuit vent provided
 - (i) the fixtures are located in the same storey as the fixtures served by the vent pipes,
 - (ii) not more than 2 fixtures are connected to the vent pipe, and
 - (iii) where 2 fixtures are connected to the vent pipe, the connection is done with a double fitting in conformance with Table 7.2.4.5.,

(f) *fixtures* that have a hydraulic load totaling not more than 1-1/2 *fixture units* may be connected to the vertical section of a *yoke vent* provided

(i) not more than 2 *fixtures* are connected to the *vent pipe*, and

(ii) where 2 *fixtures* are connected to the *vent pipe*, the connection is done with a double fitting in conformance with Table 7.2.4.5., and

(g) *fixtures* may be connected to a *vent stack* provided

(i) the total hydraulic load of the connected *fixtures* does not exceed 8 *fixture units*,

(ii) at least 1 *fixture* is connected to a vertical portion of the *vent stack* and upstream of any other *fixtures*,

(iii) no other *fixture* is connected downstream of a water closet, and

(iv) all *fixtures* are located in the lowest *storey* served by the *vent stack*.

(2) The connection of a *soil* or *waste pipe* to a *nominally horizontal soil* or *waste pipe* or to a *nominally horizontal offset* in a *soil* or *waste stack* shall be respectively at least 1 500 mm measured horizontally from the bottom of a *soil* or *waste stack* or from the bottom of the upper vertical section of the *soil* or *waste stack* that

(a) receives a discharge of 30 or more *fixture units*, or

(b) receives a discharge from *fixtures* located on 2 or more *storeys*.

(3) No other *fixture* shall be connected to a lead bend or stub that serves a water closet.

7.4.2.2. Connection of Overflows from Rainwater Tanks

(1) An overflow from a rainwater tank shall not be *directly connected* to a *storm drainage system*.

7.4.2.3. Direct Connections

(1) Two or more *fixture outlet pipes* that serve outlets from a single *fixture* that is listed in Clause 7.4.2.1.(1)(d) may be *directly connected* to a *branch* that

(a) has a *size* of at least 1-1/4 in., and

(b) is terminated above the *flood level rim* of a *directly connected fixture* with a minimum diameter waste of 1-1/2 in. to form an *air break*.

(2) *Fixture drains* from *fixtures* that are listed in Subclauses (i) and (ii) of Clause 7.4.2.1.(1)(d) may be *directly connected* to a *pipe* that

(a) is terminated to form an *air break* above the *flood level rim* of a *fixture* that is *directly connected* to a *sanitary drainage system*, and

(b) is extended through the roof when *fixtures* that are on 3 or more *storeys* are connected to it.

(3) *Fixture drains* from *fixtures* that are listed in Subclauses (iii) to (vi) of Clause 7.4.2.1.(1)(d) may be *directly connected* to a *pipe* that

(a) is terminated to form an *air break* above the *flood level rim* of a *fixture* that is *directly connected* to a *storm drainage system*, and

(b) is extended through the roof when *fixtures* that are on 3 or more *storeys* are connected to it.

(4) Every *waste pipe* carrying waste from a device for the display, storage, preparation or processing of food or drink shall be trapped and have a minimum diameter equal to the diameter of the drain outlet from the device.

7.4.3. Location of Fixtures

7.4.3.1. Plumbing Fixtures

(1) *Sanitary units*, bathtubs and shower baths shall not be installed adjacent to wall and floor surfaces that are pervious to water.

7.4.3.2. Restricted Locations of Indirect Connections and Traps

(1) Indirect connections or any *trap* that may overflow shall not be located in a crawl space or any other unfrequented area.

7.4.3.3. Equipment Restrictions Upstream of Interceptors

(1) Except as provided in Sentence (2), garbage grinders, potato peelers and other similar types of equipment shall not be located upstream of an *interceptor*.

(2) If a food scrap *interceptor* has been installed upstream of the grease *interceptor*, garbage grinders, potato peelers and other similar equipment may discharge through a grease *interceptor*.

7.4.3.4. Fixtures Located in Chemical Storage Locations and Elevator Pits

(1) A floor drain or other *fixture* located in an oil transformer vault, a high voltage room or any room where flammable, dangerous or toxic chemicals are stored or handled shall not be connected to a *drainage system*.

(2) If a floor drain is provided in an elevator pit, it shall be installed in accordance with Section 2.7. of the CAN/CSA-B44, "Safety Code for Elevators, Escalators, Dumbwaiters, Moving Walks and Freight Platform Lifts".

7.4.4. Treatment of Sewage and Wastes

7.4.4.1. Sewage Treatment

(1) Where a *fixture* or equipment discharges *sewage* or waste that may damage or impair the *sanitary drainage system* or the functioning of a *sanitary sewage works* or *sanitary sewage system*, provision shall be made for treatment of the *sewage* or waste before it is discharged to the *sanitary drainage system*.

7.4.4.2. Protection for Drainage System

(1) Where a *fixture* discharges *sewage* or *clear water waste* that has been heated, the *drainage system* shall be suitable for the temperature of the *sewage* or *clear water waste* being discharged.

7.4.4.3. Interceptors

(1) Except for *suites* of *residential occupancy*, a grease *interceptor* shall be required anywhere that food is cooked, processed or prepared.

(2) Except as provided in Sentence (3), oil *interceptors* shall be provided as follows:

- (a) service stations, repair shops and garages or any establishment where motor vehicles are repaired, lubricated or maintained shall be provided with an oil *interceptor*, and
- (b) establishments which use oily or flammable liquids or have such wastes as a result of an industrial process shall be provided with an engineered oil *interceptor*.

(3) Oil *interceptors* are not required for a drain in a hydraulic elevator pit, parking lot, car wash or a garage used exclusively as a motor vehicle parking area.

(4) Where a *fixture* discharges sand, grit or similar materials, an *interceptor* designed for the purpose of intercepting such discharges shall be installed.

(5) Every *interceptor* shall have sufficient capacity to perform the service for which it is provided.

(6) An on site constructed *interceptor* shall be constructed to the requirements of a manufactured *interceptor*.

(7) A grease *interceptor* shall be located as close as possible to the *fixture* or *fixtures* it serves.

(8) The flow rate through a grease *interceptor* shall not exceed its rated capacity and the flow rate shall be determined using the following:

$$Q = \left(\sum_{i=1}^N \left(0.75 \frac{V}{DDT} \right) \right) + PD$$

where Q is the flow rate to a grease *interceptor* in L/s,

where V is the volume of the *fixture* in l,

where DDT is the drain down time, 60 or 120 seconds (1 or 2 minutes),

where PD is any pump discharge in L/s,

where N is the number of *fixtures* to go through the *interceptor*.

(9) All grease and oil *interceptors* shall have an internal flow control and where the head will exceed five feet, a secondary flow control shall be required.

(10) Floor drains that conform to Sentence 7.4.5.1.(3) are not required to be separately trapped and vented, and may be gang trapped when discharging through an oil *interceptor*.

7.4.4.4. Neutralizing and Dilution Tanks

(1) Where a *fixture* or equipment discharges corrosive or acid waste, it shall discharge into a neutralizing or diluting tank which shall be connected to the *sanitary drainage system* through

- (a) a *trap*, or
- (b) *indirect connection*.

(2) Each neutralizing or diluting tank shall have a method for neutralizing the liquid.

7.4.5. Traps

7.4.5.1. Traps for Sanitary Drainage Systems

(1) Except as provided in Sentences (2) and (3) and Article 7.4.5.2., every *fixture* shall be protected by a separate *trap*.

(2) One *trap* may protect

- (a) all the trays or compartments of a two or three compartment sink,
- (b) a two or three compartment laundry tray, or
- (c) two similar type single compartment *fixtures* located in the same room.

(3) One *trap* may serve a group of floor drains and *hub drains*, a group of shower drains, a group of washing machines or a group of laboratory sinks if the *fixtures*

- (a) are in the same room, and
- (b) are not located where they can receive food or other organic matter.
- (4) Reserved

(5) A grease *interceptor* shall not serve as a *fixture trap* and each *fixture* discharging through the *interceptor* shall be trapped and vented.

7.4.5.2. Traps for Storm Drainage Systems

(1) Where a *storm drainage system* is connected to a public combined sewer, a *trap* shall be installed between any opening in the system and the drain or sewer, except that no *trap* is required if the opening is the upper end of a *leader* that terminates

- (a) at a roof that is used only for weather protection, and
- (b) at least 900 mm above or at least 3.5 m in any other direction from any air inlet, openable window or door, and at least 2 000 mm from a property line.

7.4.5.3. Connection of Subsoil Drainage Pipe to a Sanitary Drainage System

(1) Except as permitted in Sentence (2), no foundation drain or *subsoil drainage pipe* shall connect to a *sanitary drainage system*.

(2) Where a *storm drainage system* is not available or *soil* conditions prevent drainage to a culvert or dry well, a foundation drain or *subsoil drainage pipe* may connect to a *sanitary drainage system*.

(3) Where a *subsoil drainage pipe* may be connected to a *sanitary drainage system*, the connection shall be made on the upstream side of a *trap* with a *cleanout* or a trapped sump.

7.4.5.4. Location and Cleanout for Building Traps

- (1) Where a *building trap* is installed, it shall
 - (a) be provided with a *cleanout* fitting on the upstream side of and directly over the *trap*,
 - (b) be located upstream of the *building cleanout*, and
 - (c) be located
 - (i) inside the *building* as close as practical to the place where the *building drain* leaves the *building*, or
 - (ii) outside the *building* in a manhole.

7.4.5.5. Trap Seals

(1) Provision shall be made for maintaining the *trap* seal of a floor drain or a *hub drain* by the use of a *trap* seal primer, by using the drain

as a receptacle for an *indirectly connected* drinking fountain, or by equally effective means.

(2) Where a mechanical device is installed to furnish water to a *trap*, the pipe or tube conveying water from the device to the *trap* shall be at least 3/8 in. inside diameter.

7.4.6. Arrangement of Drainage Piping

7.4.6.1. Separate Systems

(1) No vertical *soil* or *waste pipe* shall conduct both *sanitary sewage* and *storm sewage*.

(2) There shall be no unused open ends in a *drainage system* and *dead ends* shall be so graded that water will not collect in them.

7.4.6.2. Location of Soil or Waste Pipes

(1) A *soil* or *waste pipe* shall not be located directly above

- (a) non-pressure *potable* water storage tanks,
- (b) manholes in pressure *potable* water storage tanks, or
- (c) food-handling or processing equipment.

7.4.6.3. Sumps or Tanks

(1) Only piping that is too low to drain into a *building sewer* by gravity shall be drained to a sump or receiving tank.

(2) Where the sump or tank receives *sanitary sewage*, it shall be water and air-tight and shall be vented.

(3) Equipment such as a pump or ejector that can lift the contents of the sump or tank and discharge it into the *sanitary building drain* or *sanitary building sewer* shall be installed.

(4) Where the equipment does not operate automatically, the *capacity* of the sump shall be sufficient to hold at least a 24-hour accumulation of liquid.

(5) Where there is a *building trap*, the discharge pipe from the equipment shall be connected to the *sanitary building drain* downstream of the *trap*.

(6) The discharge pipe from every *sanitary sewage* sump shall be equipped with a union, a *check valve* and a shut-off valve installed in that sequence in the direction of discharge.

(7) The discharge piping from a pump or ejector shall be sized for optimum flow velocities at pump design conditions.

7.4.6.4. Protection from Backflow

(1) A *backwater valve* or a gate valve shall not be installed in a *building drain* or in a *building sewer*.

(2) Except as provided in Sentences (3), (4) and (5), where a *building drain* or a *branch* may be subject to *backflow*, a gate valve or a *backwater valve* shall be installed on every *fixture drain* connected to them when the *fixture* is located below the level of the adjoining street.

(3) Where the *fixture* is a floor drain, a removable screw cap or other device may be installed on the upstream side of the *trap*.

(4) Where more than one *fixture* is located on a *storey* and all are connected to the same *branch*, the gate valve or *backwater valve* may be installed on the *branch*.

(5) A *subsoil drainage pipe* that drains into a *sanitary drainage system* that is subject to surcharge shall be connected in such a manner that *sewage* cannot back up into the *subsoil drainage pipe*.

7.4.6.5. Mobile Home Sewer Service

(1) A *building sewer* intended to serve a mobile home shall

- (a) be not less than 4 in. in size,
- (b) be terminated above ground,
- (c) be provided with
 - (i) a tamperproof terminal connection that is capable of being repeatedly connected, disconnected and sealed,
 - (ii) a protective concrete pad, and
 - (iii) a means to protect it from frost heave, and
- (d) be designed and constructed in accordance with good engineering practice.

7.4.6.6. Building Drain Ends

(1) Where a *building drain* enters a *building* above the elevation of the bottom of the wall of a *building*, the *building drain* may be deemed to terminate at the first point that the drainage pipe changes direction from the horizontal to the vertical.

7.4.7. Cleanouts

7.4.7.1. Cleanouts for Drainage Systems

(1) Every *sanitary drainage system* and *storm drainage system* shall be provided with *cleanouts* that will permit cleaning of the entire system.

(2) A *cleanout* fitting shall be provided on the upstream side and directly over every running *trap*.

(3) Every interior *leader* shall be provided with a *cleanout* fitting at the bottom of the *leader* or not more than 1 000 mm upstream from the bottom of the *leader*.

(4) Where a *cleanout* is required on a *building sewer* 8 in. or larger in size, it shall be a manhole.

(5) Where there is a change of direction greater than 45° in a *sanitary building drain* or a *sanitary building sewer*, a *cleanout* shall be installed at each change in direction.

(6) Every *sanitary building drain* or *storm building drain* shall be provided with a *cleanout* fitting that is located as close as practical to the place where the drain leaves the *building*.

(7) Every *soil* or *waste stack* shall be provided with a *cleanout* fitting

- (a) at the bottom of the stack,
- (b) not more than 1 000 mm upstream of the bottom of the stack, or
- (c) on a Y fitting connecting the stack to the *building drain* or *branch*.

(8) A *cleanout* shall be provided to permit the cleaning of the piping immediately downstream of an *interceptor*.

(9) Every indirect drainage pipe carrying waste from a food receptacle shall have a *cleanout* access at every change of direction of more than 45°.

(10) A *cleanout* shall be installed on a *fixture drain* serving a kitchen sink.

7.4.7.2. Size and Spacing of Cleanouts

(1) Except as provided in Sentences (2) and (3), on drainage piping of 4 in. size and smaller, the minimum size *cleanout* opening shall be the same size as the drainage pipe and on drainage piping larger than the 4 in. size, the *cleanout* opening shall be 4 in. or larger and the maximum spacing between *cleanouts* on horizontal pipe shall be

- (a) in the case of a sink waste pipe, 6 m,
- (b) in the case of a horizontal sanitary drainage pipe, or storm drainage pipe, other than a waste pipe from a sink, 15 m, and
- (c) in the case of a horizontal sanitary drainage pipe or storm drainage pipe larger than 4 in. size, 30 m.

(2) The spacing between manholes serving a building sewer

- (a) 24 in. or less in size shall not exceed 90 m, and
- (b) over 24 in. in size shall not exceed 150 m.

(3) The developed length of a building sewer between the building and the first manhole to which the building sewer connects shall not exceed 30 m.

(4) *Cleanouts* capable of rodding in one direction only shall be installed to rod in the direction of flow.

(5) Manholes shall be located at all junctions, all changes in grade, size or alignment (except for curvilinear alignment) on a sanitary building sewer.

(6) Manholes shall be located at changes of grade, size or alignment (except for curvilinear alignment) on a storm building sewer.

7.4.7.3. Manholes

(1) A manhole including the cover shall be designed to support all loads imposed upon it.

(2) A manhole shall be provided with

- (a) a cover which shall provide an airtight seal if located within a building,
- (b) a rigid ladder of a corrosion-resistant material where the depth exceeds 1 000 mm, and
- (c) a vent to the exterior if the manhole is located within a building.

(3) A manhole shall have a minimum horizontal dimension of 1 200 mm, except that the top 1 500 mm may be tapered from 1 200 mm down to a minimum of 600 mm at the top.

(4) A manhole in a sanitary drainage system shall be channelled to direct the flow of effluent.

7.4.7.4. Location of Cleanouts

(1) *Cleanouts* and access covers shall be located so that the openings are readily accessible for rodding and cleaning purposes.

(2) A *cleanout* shall not be located in a floor assembly in a manner that may constitute a hazard and shall not be used as a floor drain.

(3) Reserved

(4) Each change of direction of the piping between a *cleanout* fitting and the drainage piping or vent piping that it serves shall be accomplished by using 45° bends.

(5) A *cleanout* shall be provided to serve vertical drainage piping from a wall hung urinal and shall extend above the flood level rim of the fixture.

7.4.8. Minimum Slope and Length of Drainage Pipes

7.4.8.1. Minimum Slope

(1) Every drainage pipe that has a size of 3 in. or less, and every fixture drain shall have a downward slope in the direction of flow of at least 1 in 50.

(2) Sentence (1) does not apply to a force main.

7.4.8.2. Length of Fixture Outlet Pipe

(1) Except as provided in Sentence 7.4.5.1.(3), the developed length of every fixture outlet pipe shall not exceed 900 mm.

7.4.9. Size of Drainage Pipes

7.4.9.1. No Reduction in Size

(1) No soil or waste pipe that is of minimum size required by this Code for the purpose for which it is installed shall be so connected as to drain to other drainage pipe of lesser size.

(2) Where a building drain connects to a stack through a wall or floor, the drain shall retain its full size through the wall or floor.

7.4.9.2. Serving Water Closets

(1) The size of every drainage pipe that serves a water closet shall be at least 3 in.

(2) The size of every horizontal branch downstream of the third water closet fixture drain connection shall be at least 4 in.

(3) The size of every soil stack that serves more than 6 water closets shall be at least 4 in.

7.4.9.3. Size of Fixture Outlet Pipes

(1) Except as provided in Sentence (2) the size of every fixture outlet pipe shall conform to Table 7.4.9.3.

(2) The part of the fixture outlet pipe that is common to 3 compartments of a sink shall be one size larger than the largest fixture outlet pipe of the compartments that it serves.

7.4.9.4. Minimum Size of Building Drains and Sewers

(1) Every *sanitary building drain* and every *sanitary building sewer* shall be at least 4 in. size.

(2) Every *storm building drain* and every *storm building sewer* shall be at least 4 in. size.

Table 7.4.9.3.

**Minimum Permitted Size of Fixture Outlet Pipe
and Hydraulic Loads for Fixtures**

Forming Part of Sentences 7.4.9.3.(1) and 7.4.10.2.(1)

| <i>Fixture</i> | <i>Min. Size of Fixture Outlet Pipe, in.</i> | <i>Hydraulic Load, fixture units</i> |
|---|--|---|
| Autopsy table | 1½ | 2 |
| Bathroom group | | |
| (a) with flush tank | | 6 |
| (b) with direct flush valve | | 8 |
| Bathtub (with or without shower) | 1½ | 1½ |
| Bath: foot, sitz or slab | 1½ | 1½ |
| Bed pan washer | 3 | 6 |
| Beer cabinet | 1½ | 1½ |
| Bidet | 1¼ | 1 |
| Chinese range | 1½ | 3 |
| Clothes washer | | |
| (a) domestic | N/A | 1½ with 1½ in. trap |
| (b) commercial | N/A | 2 with 1½ in. trap |
| Dental unit or cuspidor | 1¼ | 1 |
| Dishwasher | | ½ |
| (a) domestic | 1½ | no load when connected to garbage grinder or domestic sink |
| (b) commercial type | 2 | 3 |
| Drinking fountain | 1¼ | ½ |
| Fish tank or tray | 1½ | 1½ |
| Floor drain | 2 | 2 with 2 in. trap 3 with 3 in. trap |
| Garbage grinder, commercial type | 2 | 3 |
| Icebox | 1¼ | 1 |
| Laundry tray | | |
| (a) single or double units or 2 single units with common trap | 1½ | 1½ |
| (b) 3 compartments | 1½ | 2 |
| Lavatory | | |
| (a) barber or beauty parlor | 1½ | 1½ |

| | | |
|---|----|---|
| (b) dental | 1¼ | 1 |
| (c) domestic type single, or 2 single with common trap | 1¼ | 1 with 1¼ in. trap 1½ with 1½ in. trap |
| (d) multiple or industrial type | 1½ | 3 |
| Potato Peeler | 2 | 3 |
| Shower drain | | |
| (a) from 1 head | 1½ | 1½ |
| (b) from 2 or 3 heads | 2 | 3 |
| (c) from 4 to 6 heads | 3 | 6 |
| Sink | | |
| (a) domestic and other small type with or without gar- bage grinders, single, dou- ble or 2 single with a com- mon trap | 1½ | 1½ |
| (b) other sinks | 1½ | 1½ with 1½ in. trap 2 with 2 in. trap 3 with 3 in. trap |
| Urinal | | |
| (a) pedestal, siphon jet or blowout type | 2 | 4 |
| (b) stall, washout type | 2 | 2 |
| (c) wall | | |
| (i) washout type | 1½ | 1½ |
| (ii) other types | 2 | 3 |
| Water closet | | |
| (a) with flush tank | 3 | 4 |
| (b) with direct flush | 3 | 6 |
| Column 1 | 2 | 3 |

7.4.10. Hydraulic Loads**7.4.10.1. Total Load on a Pipe**

(1) The hydraulic load on a pipe is the total load from

(a) every *fixture* that is connected to the system upstream of the pipe, and

(b) every *fixture* for which provision is made for future connection upstream of the pipe.

7.4.10.2. Hydraulic Loads for Fixtures

(1) The hydraulic load from a *fixture* that is listed in Table 7.4.9.3. is the number of *fixture units* set forth in the Table.

(2) Except as provided in Sentence (1), the hydraulic load from a *fixture* that is not listed in Table 7.4.9.3. is the number of *fixture units* set forth in Table 7.4.10.2. for the *trap* of the size that serves the *fixture*.

Table 7.4.10.2.

Permitted Hydraulic Load from a Fixture Based on Size of Trap

Forming Part of Sentence 7.4.10.2.(2)

| Size of Trap, in. | Hydraulic Load, fixture units |
|-------------------|-------------------------------|
| 1¼ | 1 |
| 1½ | 2 |
| 2 | 3 |
| 2½ | 4 |
| 3 | 5 |
| 4 | 6 |
| Column 1 | 2 |

7.4.10.3. Fixture Loading for Horizontal Drain

(1) No horizontal *sanitary drainage pipe* of less than 3 in. size shall have a *fixture* loading in excess of that permitted by Table 7.4.10.3.A.

Table 7.4.10.3.A.

Maximum Permitted Hydraulic Load Drained to a Branch

Forming Part of Sentence 7.4.10.3.(1)

| Size of Branch, in. | Maximum Load, fixture units |
|---------------------|-----------------------------|
| 1¼ | 2 |
| 1½ | 4 |
| 2 | 6 |
| Column 1 | 2 |

(2) Reserved

(3) The horizontal *sanitary drainage pipe* size shall be that size determined from Table 7.4.10.3.C. after the total connected load in *fixture units* on a horizontal *sanitary drainage pipe* is converted to gallons per minute in accordance with Table 7.4.10.3.B.

(4) Horizontal *sanitary drainage pipe* shall be designed to carry no more than 65% of its full capacity.

Table 7.4.10.3.B.

Maximum Probable Drainage Rate, gal/min

Forming Part of Sentences 7.4.10.3.(3), 7.4.10.4.(1), 7.4.10.5.(3)

| Fixture Units in Service | Fixture Units Col. 1 | Fixture Units Col. 1 x 10 | Fixture Units Col. 1 x 100 |
|--------------------------|----------------------|---------------------------|----------------------------|
| 100 | 53 | 174 | 900 |
| 90 | 51 | 164 | 835 |
| 80 | 49 | 153 | 750 |
| 70 | 47 | 140 | 680 |
| 60 | 44 | 128 | 600 |
| 50 | 41 | 115 | 520 |
| 40 | 38 | 102 | 435 |
| 30 | 33 | 88 | 350 |
| 20 | 27 | 72 | 262 |
| 10 | 21 | 53 | 174 |
| Column 1 | 2 | 3 | 4 |

Table 7.4.10.3.C.

Capacity of Horizontal Drainage Pipe, gal/min

Forming Part of Sentences 7.4.10.3.(3) and 7.4.10.4.(1)

| Drain Size, Nominal in. | Loading | Slope ⁽¹⁾ | | | | | |
|-------------------------|----------|----------------------|-------|-------|-------|------|------|
| | | 1:400 | 1:200 | 1:125 | 1:100 | 1:50 | 1:25 |
| 3 | 65% Full | | | | | 46 | 67 |
| 4 | 65% Full | | | | 63 | 91 | 132 |
| 5 | 65% Full | | 81 | 96 | 116 | 165 | 240 |
| 6 | 65% Full | 94 | 127 | 156 | 185 | 272 | 396 |
| 8 | 65% Full | 182 | 269 | 341 | 390 | 578 | 835 |
| 10 | 65% Full | 347 | 507 | 618 | 735 | 1050 | 1540 |
| 12 | 65% Full | 585 | 825 | 975 | 1180 | 1750 | 2460 |
| 15 | 65% Full | 720 | 1010 | 1180 | 1390 | 1990 | 2790 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Note to Table 7.4.10.3.C.:

(1) Slope is the ratio of rise to run, in whatever measurement units are chosen.

7.4.10.4. Hydraulic Loads from Continuous Flows

(1) For the purposes of determining the size of *sanitary drainage pipe* in accordance with Table 7.4.10.3.C., pumped discharge and other continuous or semi-continuous flows shall be calculated in gallons per minute and added to the drainage rate in gallons per minute from Table 7.4.10.3.B.

7.4.10.5. Hydraulic Loads for Vertical Drains

(1) No vertical *waste pipe, branch* or stack of less than 3 in. diameter shall have a hydraulic load in excess of that permitted by Table 7.4.10.5.A.

(2) Reserved

(3) The vertical *sanitary drainage pipe* size shall be that size determined from Table 7.4.10.5.B. after the total connected load in *fixture units* on a vertical drainage pipe is converted to gallons per minute in accordance with Table 7.4.10.3.B.

(4) Vertical *sanitary drainage pipe* shall be designed to carry no more than 33% of its full capacity.

Table 7.4.10.5.A.

Maximum Load on Vertical Drainage Pipe, fixture units

Forming Part of Sentence 7.4.10.5.(1)

| Pipe Size, in. | Stack Height 3 Storeys or less | Stack Height more than 3 Storeys | For Each Storey in Stack of more than 3 Storeys |
|----------------|--------------------------------|----------------------------------|---|
| 1¼ | 3 | 3 | 3 |
| 1½ | 8 | 8 | 5 |
| 2 | 16 | 24 | 10 |
| Column 1 | 2 | 3 | 4 |

Section 7.5. Venting Systems**7.5.1. Vent Pipes for Traps****7.5.1.1. Venting for Traps**

(1) Except as provided in Sentences (2) and (3) and Article 7.5.2.1., every *trap* shall be vented.

(2) A *trap* that serves a floor drain or *hub drain*, directly connected to a *sanitary building drain* is not required to be vented where

- (a) the size of the *trap* is at least 3 in.,
- (b) the length of the *fixture drain* is at least 900 mm,
- (c) the total fall on the *fixture drain* does not exceed its inside diameter, and
- (d) the minimum slope on a 3 in. *fixture drain* is 1 in 50 and on sizes larger than 3 in. is 1 in 100.

(3) A *trap* is not required to be vented where

- (a) it serves a *subsoil drainage pipe*,
- (b) it serves a *storm drainage system*, or
- (c) it forms part of an indirect *drainage system*, less than three storeys high.

Table 7.4.10.5.B.

**Maximum Load on Vertical Drainage Pipe in GPM
and Maximum Length of Vent Stacks**

Forming Part of Sentences 7.4.10.5.(3), 7.5.3.2.(3) and 7.5.7.2.(1)

| Stack Size, in. (Drain) | Water Occupied Area | Flow Rate, gal/min | Vent Stack Size, in. and Maximum Length, metres | | | | | | | | | | |
|----------------------------------|---------------------------|--------------------------|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 |
| 3 | 0.15 | 18.4 | 12.8 | 44.2 | 108.0 | 317.0 | | | | | | | |
| | .20 | 29.4 | 9.8 | 33.5 | 82.3 | 245.4 | | | | | | | |
| | .25 | 43.0 | 8.2 | 28.7 | 70.1 | 207.3 | | | | | | | |
| | .29 | 55.7 | 7.6 | 26.2 | 64.0 | 189.0 | | | | | | | |
| | .30 | 58.4 | 7.3 | 25.9 | 62.5 | 185.9 | | | | | | | |
| | .33 | 69.5 | 7.0 | 24.7 | 61.0 | 178.3 | | | | | | | |
| 4 | 0.15 | 39.6 | | 10.7 | 25.9 | 76.2 | 297.2 | | | | | | |
| | .20 | 64.0 | | 8.2 | 19.8 | 59.4 | 228.6 | | | | | | |
| | .25 | 92.5 | | 7.0 | 16.8 | 50.3 | 193.5 | | | | | | |
| | .29 | 120.0 | | 6.4 | 15.2 | 45.7 | 176.8 | | | | | | |
| | .30 | 126.0 | | 6.1 | 14.9 | 44.8 | 173.7 | | | | | | |
| | .33 | 150.0 | | 5.8 | 14.3 | 42.7 | 166.1 | | | | | | |
| 5 | 0.15 | 72.0 | | | 8.5 | 25.0 | 97.5 | 300.2 | | | | | |
| | .20 | 116.0 | | | 6.4 | 19.2 | 74.7 | 231.6 | | | | | |
| | .25 | 168.0 | | | 5.5 | 16.2 | 63.1 | 195.1 | | | | | |
| | .29 | 217.0 | | | 4.9 | 14.9 | 57.6 | 178.3 | | | | | |
| | .30 | 228.0 | | | 4.9 | 14.6 | 56.7 | 175.3 | | | | | |
| | .33 | 272.0 | | | 4.6 | 14.0 | 54.6 | 169.2 | | | | | |
| 6 | 0.15 | 117.0 | | | | 10.1 | 39.6 | 121.9 | 304.8 | | | | |
| | .20 | 189.0 | | | | 7.9 | 30.5 | 94.5 | 236.2 | | | | |
| | .25 | 274.0 | | | | 6.7 | 25.6 | 79.2 | 199.6 | | | | |
| | .29 | 354.0 | | | | 6.1 | 23.5 | 73.2 | 181.4 | | | | |
| | .30 | 370.0 | | | | 5.8 | 23.2 | 71.6 | 179.8 | | | | |
| | .33 | 441.0 | | | | 5.8 | 22.3 | 68.6 | 172.2 | | | | |
| 8 | 0.15 | 251.0 | | | | | 9.4 | 29.0 | 73.2 | 286.5 | | | |
| | .20 | 406.0 | | | | | 7.3 | 22.3 | 56.4 | 219.5 | | | |
| | .25 | 589.0 | | | | | 6.1 | 18.9 | 47.2 | 185.9 | | | |
| | .29 | 762.0 | | | | | 5.5 | 17.1 | 42.7 | 169.2 | | | |
| | .30 | 798.0 | | | | | 5.5 | 17.1 | 42.7 | 167.6 | | | |
| | .33 | 950.0 | | | | | 5.2 | 16.2 | 41.1 | 160.0 | | | |
| 10 | 0.15 | 455.0 | | | | | | 9.4 | 23.8 | 93.0 | 292.6 | | |
| | .20 | 736.0 | | | | | | 7.3 | 18.3 | 71.6 | 224.0 | | |
| | .25 | 1070.0 | | | | | | 6.1 | 15.5 | 61.0 | 190.5 | | |
| | .29 | 1380.0 | | | | | | 5.5 | 14.0 | 54.9 | 173.7 | | |
| | .30 | 1440.0 | | | | | | 5.5 | 14.0 | 54.9 | 170.7 | | |
| | .33 | 1730.0 | | | | | | 5.2 | 13.4 | 51.8 | 163.1 | | |
| 12 | 0.15 | 740.0 | | | | | | | 9.4 | 36.6 | 115.8 | 286.5 | |
| | .20 | 1200.0 | | | | | | | 7.3 | 28.7 | 89.9 | 219.5 | |
| | .25 | 1730.0 | | | | | | | 6.1 | 24.1 | 76.2 | 185.9 | |
| | .29 | 2240.0 | | | | | | | 5.5 | 21.9 | 68.6 | 169.2 | |
| | .30 | 2350.0 | | | | | | | 5.5 | 21.6 | 68.6 | 167.6 | |
| | .33 | 2800.0 | | | | | | | 5.2 | 20.7 | 65.5 | 160.0 | |
| 15 | 0.15 | 1340.0 | | | | | | | | 12.2 | 38.1 | 93.0 | 146.3 |
| | .20 | 2170.0 | | | | | | | | 9.4 | 29.3 | 71.6 | 112.8 |
| | .25 | 3140.0 | | | | | | | | 7.9 | 24.7 | 61.0 | 94.5 |
| | .29 | 4070.0 | | | | | | | | 7.3 | 22.6 | 54.9 | 88.4 |
| | .30 | 4260.0 | | | | | | | | 7.0 | 22.3 | 54.9 | 85.3 |
| | .33 | 5080.0 | | | | | | | | 6.7 | 21.3 | 51.8 | 82.3 |
| Col. 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |

7.5.2. Stack Venting & Modified Stack Venting, Circuit Venting and Relief Venting

7.5.2.1. Vertical Stacks

(1) A vertical *soil stack* that is not less than 3 inches diameter that is extended as a *stack vent* shall be deemed to vent a *fixture trap* where the connection of the *fixture drain* meets the following requirements:

- (a) the number of *stack vented fixtures* connected to one stack above the water closet is not greater than 4,
- (b) all *fixtures* of the *stack vented* group numbering four or less above the water closet are on the same floor level or *storey* and the stack receives no waste at a higher level,
- (c) the number of *stack vented* water closets is not greater than 2,
- (d) where two water closets are installed, they are connected at the same level to a vertical part of the stack,
- (e) where there are two water closets in a *stack vented* group and they are installed as described in Clause (d), the remaining *fixtures* of the group are connected directly and independently to the stack above the centre-line of the connection of the two water closets and the uppermost *fixture* is connected to the vertical portion of the stack,
- (f) where there is only one water closet in the *stack vented* group it is connected to the vertical stack or the horizontal continuation of the stack and the remaining *fixtures* upstream of the water closet are connected directly and independently to the stack and the uppermost *fixture* is connected to the vertical portion of the stack,
- (g) the total number of *fixture units* connected above the water closet is not greater than 8, and
- (h) no *fixture drain* connected above the water closet is of more than 2 in. trade size and is not serving a siphonic trap.

7.5.2.2. Horizontal Branches and Relief Vents

(1) A horizontal branch off a stack or off a *sanitary building drain* may be *circuit vented* where

- (a) the *circuit vented branch* is of a size 3 in. or greater,
- (b) the number of *circuit vented fixtures* is less than 7 per vent and in any group of 6 or less *circuit vented fixtures* all but the last of the group are downstream of the point where the *circuit vent* connects to the *branch*,
- (c) the *circuit vented fixture* is a *sanitary unit*, floor drain, *hub drain*, shower drain or trap standard slop sink,
- (d) all *fixtures* connected to the *circuit vented branch* are on the same floor level,
- (e) no *soil* or *waste stack* connects to the *circuit vented branch*,
- (f) no *circuit vented trap* has a horizontal run of *waste pipe* of more than 1 500 mm, and
- (g) in a water closet installation, no *circuit vented trap* has a horizontal run of *waste pipe* of more than 1 500 mm nor a vertical run of more than 900 mm.

(2) Where a stack or a *sanitary building drain* has a *circuit vented branch* connected to it and the stack or *sanitary building drain* carries

more than eight *fixture units* of drainage upstream of the connection or has connected to it a *sanitary drainage pipe* larger than 2 in. size or receives drainage from a higher floor level, the *circuit vented branch* shall be *relief vented*.

(3) A *relief vent* required by Sentence (2) may be a *wet vent* if it is of 2 in. size or greater and not more than one *fixture* having a maximum of 1-1/2 *fixture units* is drained into it.

(4) Where *circuit vented fixture traps* are connected to 2 or more horizontal branches that connect to the same horizontal branch, the horizontal branches may have a combined *relief vent*.

7.5.3. Vent Pipes for Soil or Waste Stacks

7.5.3.1. Stack Vents

(1) The upper end of every *soil* or *waste stack* shall terminate in a *stack vent* and the *stack vent* shall terminate in *open air* outside the building or connect directly or through a *header* to another *stack vent* or *vent stack* that does terminate in *open air* outside the building.

7.5.3.2. Vent Stacks

(1) Except as provided in Sentence (2), where *back vents*, *relief vents* or *circuit vents* are installed in two or more *storeys* served by a *soil stack* or *waste stack*, a *vent stack* shall be installed in conjunction with the *soil* or *waste stack*.

(2) A *vent stack* is not required to be installed in conjunction with the *soil* or *waste stack* in a residential building of 3 *storeys* or less.

(3) A *vent stack* shall

(a) have its lower end connected to

- (i) the *waste stack* or *soil stack* at or below the lowest horizontal *sanitary drainage pipe* connected to the *waste stack* or *soil stack*, or
- (ii) the *sanitary building drain* immediately downstream of the stack connection,

(b) extend to the *open air* independently or through a *header*,

(c) except as provided for in Clause (d), where it is connected to the *soil stack*, *waste stack* or *sanitary building drain*, of a size and length as determined from Table 7.4.10.5.B., and

(d) at each point of interconnection with a *branch vent* be not smaller than the minimum size permitted by Table 7.5.7.2.

(4) Where a *plumbing system* is installed in a building, every *storey* in which *plumbing* is or may be installed, including the basement of a single family dwelling, shall have extended into it or passing through it a *vent pipe* that is at least 1-1/2 in. size for the provision of future connections.

(5) Where a single family dwelling, built prior to April 7, 1976, has a *vent pipe* installed in the basement that is at least 1-1/4 in. trade size and there is no larger *vent pipe* in the area, the 1-1/4 in. pipe may be used to vent one water closet and one wash basin where both *fixtures* are located in the basement and where the vent connecting the water closet or the wash basin and the water closet to the *vent pipe* is at least 1-1/2 in. trade size.

(6) Where a *vent stack* is installed as a result of additions or alterations to a *plumbing system* in an existing building, the *vent stack* may be erected outside the building, provided that

- (a) no single change of direction of the stack exceeds 45°,

- (b) all parts of the stack are vertical,
- (c) the stack terminates above the roof of the *building* where the *building* is 4 storeys in height or less, and
- (d) the requirements set out in Sentence 7.5.5.5.(3) are met.

7.5.3.3. Yoke Vents

(1) Except as provided in Sentence (4), where a *soil stack* or a *waste stack* receives the discharge from *fixtures* located on more than eleven storeys, a *yoke vent* shall be installed

- (a) for each section of five storeys or part thereof counted from the top down, and
- (b) at or immediately above each *offset* or double *offset*.

(2) The *yoke vent* shall be connected to the *soil* or *waste stack* by means of a drainage fitting at or immediately below the lowest *soil* or *waste pipe* from the lowest storey of the section described in Sentence (1).

(3) The *yoke vent* shall connect to the *vent stack* at least 1 000 mm above the floor level of the lowest storey in the section described in Sentence (1).

(4) A *yoke vent* is not required to be installed where the *soil* or *waste stack* is interconnected to the *vent stack* in each storey by means of a *fixture* or a group of vented *fixtures* installed in accordance with Subsection 7.5.2.

7.5.4. Miscellaneous Vent Pipes

7.5.4.1. Venting of Sanitary Sewage Sumps

(1) Every tank that receives *sanitary sewage* shall be provided with a *vent pipe* that is connected to the top of the tank and that is sized in accordance with Article 7.5.6.5.

7.5.4.2. Venting of Interceptors

- (1) Every oil *interceptor* shall be provided with two *vent pipes* that
 - (a) connect to the *interceptor* at opposite ends,
 - (b) extend independently to *open air*,
 - (c) terminate at least 2 000 mm above ground and at elevations differing by at least 300 mm, and
 - (d) do not connect to each other or any other *vent pipe*.

(2) Adjacent compartments within an oil *interceptor* shall be connected to each other by a vent opening.

(3) Every grease *interceptor* shall have a *vent pipe* that is at least 1-1/2 in. size connected to the outlet pipe, that connects to the *plumbing venting system*.

(4) A *vent pipe* shall be provided within 1 500 mm of the inlet to a grease *interceptor* complete with a *cleanout* to provide cleaning of the *vent pipe*.

(5) Where a secondary receiver is installed in conjunction with an oil *interceptor*, it shall be vented as per manufacturer's recommendations, but in no case shall the vent be less than 1-1/2 in. trade size and shall extend independently to *open air*.

(6) Where an acid waste dilution tank is installed, it shall be provided with a *vent pipe* connected at the top of the tank and that is sized in accordance with Article 7.5.6.5.

(7) Where a manufacturer of an oil *interceptor* makes no recommendations with respect to the size of the *vent pipe* venting an oil *interceptor*, the *interceptor* shall be vented at each end with a *vent pipe* that is not more than one size smaller than the largest connected drainage pipe and not less than 1-1/4 in. nominal pipe size.

(8) Every *vent pipe* serving an oil *interceptor* that is built in location shall be at least 3 in. size throughout its length.

(9) Every *vent pipe* serving an oil or grease *interceptor* that is located outside a *building* shall be a minimum 3 in. size.

7.5.4.3. Fresh Air Inlet

(1) Where a *building trap* is installed in a *plumbing system*, a *fresh air inlet* not less than 4 in. size shall be connected upstream of the *building trap* and within 1 200 mm of the *building trap* and downstream of any other connection.

7.5.4.4. Venting of Corrosive Drain Piping and Dilution Tanks

(1) Vents connecting to the corrosive drain piping or dilution tank shall extend independently to and terminate in *open air*.

7.5.5. Arrangement of Vent Pipes

7.5.5.1. Drainage of Vent Pipes

(1) Every *waste pipe* shall be installed and *back vented* at the same time.

(2) Every *vent pipe* shall be installed without a sag or depression and shall have no unused open ends.

7.5.5.2. Vent Pipe Connections

(1) Every *vent pipe* in a *plumbing system* shall be installed so as to be direct as possible to a *vent stack* or *open air*, as the case may be, and so that any horizontal run below the flood level of the *fixture* to which the *vent pipe* is installed is eliminated where structurally possible.

(2) Except as provided in Sentence (3), where a *vent pipe* is connected to a *nominally horizontal soil* or *waste pipe*, the connection shall be above the horizontal centre line of the *soil* or *waste pipe*.

(3) A *wet vent* is not required to be connected above the horizontal centre line of the *soil* or *waste pipe*.

7.5.5.3. Location of Vent Pipes

(1) Except as provided in Sentences (2) and (3), a *vent pipe* that protects a *fixture trap* shall be so located that

- (a) the *developed length* of a *fixture drain* measured from the *trap weir* is

- (i) not less than twice the pipe size of the *fixture drain*, and
- (ii) not more than 1 500 mm,

- (b) the total fall of the *fixture drain* from a P-trap is not greater than the size of the *fixture drain*,

- (c) no *fixture drain* has a cumulative change of direction of more than 135°, and

- (d) except as permitted in Article 7.5.7.1., no *waste pipe* is connected to the *fixture drain* between the *trap* and its protecting vent.

(2) No *fixture drain* of a water closet, *S-trap standard* or a *fixture* that depends on siphonic action for the proper functioning of the *fixture* and that discharges vertically shall have a cumulative change of direction of more than 225°.

(3) No *vertical leg* of the *waste pipe* from a water closet or other *fixture* that has an integral siphonic flushing action shall exceed 900 mm.

(4) The *vent pipe* from a water closet or other *fixture* that has an integral siphonic flushing action may be connected to the *vertical leg* of its *waste pipe*.

7.5.5.4. Connection of Vents Above Fixtures Served

(1) The upper end of every *vent pipe* shall be above the flood level of the highest *fixture* it serves before connection to another *vent pipe*.

(2) No vent piping shall be so arranged that it will serve as a bypass in the event of an obstruction in the drainage pipe.

7.5.5.5. Terminals

(1) The upper end of every *vent pipe* that is not terminated in *open air* shall be connected to a *venting system* that is terminated in *open air*.

(2) A *vent pipe* that serves an oil *interceptor*, a *vent stack* that is permitted by Sentence 7.5.3.2.(6), a *vent stack* and a *stack vent* shall each terminate in *open air* as set out in Sentence (3).

(3) The terminal of a *vent pipe* shall be located

- (a) at least 900 mm above or 3.5 m in any other direction from air inlet, openable window or door,
- (b) at least 150 mm above the roof of the *building* where the vent is installed and, where storm water is intended to pond on the roof, at least 150 mm above the high water level, and
- (c) at least 2 000 mm above the roof of the *building* that the vent is installed in, where the roof is intended for human occupancy.

(4) Clause (3)(a) does not apply to a *fresh air inlet* pipe.

(5) Where a *vent pipe* is located 2 000 mm or more above a roof, it shall be so constructed as to be stable and secure.

(6) Where a stack or *vent pipe* passes through a roof or a wall, the stack or *vent pipe* shall be equipped with a flashing so installed that no storm water can pass between the structure and the flashing or between the flashing and the pipe or stack.

(7) Flashing shall be of material specified in Article 7.2.10.14. and on a shingled roof shall have a minimum dimension of 500 mm by 500 mm.

(8) Where a sleeve flashing is installed on a flat roof, it shall extend at least 150 mm above the flood level and on a sloped roof shall be at least 150 mm high on the short side.

(9) No bore of a *vent stack* or *stack vent* shall be reduced or obstructed by the installation of a flashing.

(10) Where a *vent pipe* passes through a roof or an outside wall of a *building*, it shall be increased to a minimum size of 3 in. before penetrating the roof or wall.

7.5.6. Minimum Size of Vent Pipes

7.5.6.1. General

(1) Except as provided in Article 7.5.3.1. and 7.5.7.1, where a *vent pipe* vents one or more *fixture traps*, the pipe size of the *vent pipe* shall be in accordance with Table 7.5.6.1.

Table 7.5.6.1.

Minimum Permitted Size of Vent Pipe Based on Size of Trap

Forming Part of Sentence 7.5.6.1.(1)

| Size of Trap Served, in. | Minimum Size of Vent Pipe, in. |
|--------------------------|--------------------------------|
| 1¼ | 1¼ |
| 1½ | 1¼ |
| 2 | 1½ |
| 2½ | 1½ |
| 3 | 1½ |
| 4 | 1½ |
| 5 | 2 |
| 6 | 2 |
| Column 1 | 2 |

(2) Every *relief vent* or *circuit vent* shall be at least 2 in. size.

7.5.6.2. Size Restriction

(1) Except as provided in Sentence 7.5.3.2.(5), no *branch vent*, *stack vent*, *vent stack* or *header* shall be a size less than the size of the largest *vent pipe* connected to it.

(2) Every *sanitary building drain* shall terminate at its upstream end in a stack of at least 3 in. size.

(3) A stack referred to in Sentence (2) shall be a *soil stack* if one is available and may be a *vent stack* or *waste stack* that provides at least 3 in. *stack vent* and that goes to *open air* above the roof, either directly or through a *header*.

7.5.6.3. Reserved

7.5.6.4. Minimum Size of Yoke Vents

(1) Where a *yoke vent* is required to be installed in accordance with Article 7.5.3.3., the *yoke vent* shall be at least 2 in. size.

7.5.6.5. Vents for Sanitary Sewage Sumps

(1) Where the diameter of an inlet pipe to a *sanitary sewage* tank is

- (a) 5 in. or larger, the diameter of the *vent pipe* from the tank shall be at least 4 in., and
- (b) less than 5 in., the diameter of the *vent pipe* from the tank shall be the greater of
 - (i) 1-1/4 in., and
 - (ii) one trade size smaller than the inlet pipe.

7.5.7. Sizing of Vent Pipes

7.5.7.1. Sizes for Wet Vents

(1) Where 2 or 3 *fixtures* are installed in a *plumbing system*, any one of the *fixtures* may be *wet vented* by one or both of the other *fixtures* if

- (a) all the *fixtures* are on the same floor level,

(b) only the *wet vented fixture* is a water closet or other *fixture* using a siphonic *trap*,

(c) where the *wet vented trap* is not a siphonic *trap*, it is a P-*trap* and the *wet vent* is connected to the horizontal *waste pipe* downstream from the weir of the P-*trap* at least 450 mm and not more than 1 500 mm, and

(d) at least one of the *wet venting fixtures* is drained through a vertical *continuous waste and vent* and the *waste pipe* serving as a *wet vent* is at least

(i) 1-1/4 in. *size*, where the *wet vented trap* is of 1-1/4 or 1-1/2 in. *size*,

(ii) 1-1/2 in. *size*, where the *wet vented trap* is of 2 in. *size*, or

(iii) 2 in. *size*, where the *wet vented trap* is of 3, 4 or 6 in. *size*.

(2) Where there are two *wet venting fixtures* in a *plumbing system* referred to in Sentence (1) and both connect to the same vertical *continuous waste and vent*, both *wet venting fixtures* shall, where they are connected at the same level, be vented by a double fitting in conformance to Table 7.2.4.5. or, where they are not connected at the same level, be separately vented.

7.5.7.2. Branch Vent Sizing

(1) No *branch vent* and its connecting *branch* shall be smaller in diameter than the diameter calculated in accordance with Table 7.5.7.2.A. and where Table 7.4.10.5.B. is not applicable to the vent, the maximum length of the vent shall be calculated in accordance with Table 7.5.7.2.B.

(2) Where Table 7.4.10.5.B. is not applicable to a *branch vent*, *header* or *circuit vent*, no vent or *header* shall have *branch* connections in excess of the number that are permitted by the combinations in Table 7.5.7.2.A. and, where one *vent pipe* protects more than one *trap*, each *trap* shall be counted as one vent.

Table 7.5.7.2.A.

Branch Venting

Forming Part of Sentences 7.5.3.2.(3), 7.5.7.2.(1) and (2)

| Combination Number | Size of Receiving Vent, in. | Maximum Number Size and Nature of Connecting Vents | | |
|--------------------|-----------------------------|---|--|------------------------------|
| | | 1 1/4 in. Other than Water Closet | 1 1/2 in. Other than Water Closet | 1 1/2 in. Water Closet |
| 1 | 1 1/4 | 4 | -- | -- |
| 2 | 1 1/2 | 12 | -- | -- |
| 3 | 1 1/2 | -- | 6 | -- |
| 4 | 1 1/2 | -- | -- | 2 |
| 5 | 1 1/2 | 4 | -- | 1 |
| 6 | 1 1/2 | 2 | 1 | 1 |
| 7 | 1 1/2 | -- | 2 | 1 |

| | | | | |
|----------|-------|----|----|----|
| 8 | 2 | 50 | -- | -- |
| 9 | 2 | -- | 25 | -- |
| 10 | 2 | -- | 12 | 6 |
| 11 | 2 1/2 | -- | 12 | 10 |
| 12 | 2 1/2 | 25 | -- | 10 |
| Column 1 | 2 | 3 | 4 | 5 |

Note to Table 7.5.7.2.A.:

(1) *Vent pipes* permitted in Columns 3 and 4 of combinations 2 to 12 may be exchanged on the basis of two 1 1/4 in. *vent pipes* equal to one 1 1/2 in. *vent pipe*.

(3) Reserved

(4) For the purpose of Table 7.5.7.2.B.

(a) the length of a *circuit vent* shall be the *developed length* from the horizontal *soil* or *waste pipe* to the *vent stack*, *stack vent*, *header* or *open air*, and

(b) the length of a *branch vent* shall be the *developed length* of vent piping from the most distant *soil* or *waste pipe* connection to a *vent stack*, *stack vent*, *header* or *open air*.

Table 7.5.7.2.B.

Maximum Length of Vents

Forming Part of Articles 7.5.7.2. and 7.5.7.3.

| Pipe, Trade Size, in. | Maximum Length, metres |
|-----------------------|------------------------|
| 1 1/4 | 15.2 |
| 1 1/2 | 15.2 |
| 2 | 18.3 |
| 2 1/2 | 24.4 |
| 3 | 30.5 |
| 4 | 45.7 |
| 5 | 61.0 |
| 6 | 76.2 |
| Column 1 | 2 |

(5) Reserved

(6) Reserved

(7) For the purpose of Table 7.4.10.5.B. and Table 7.5.7.2.B., the length of a *header* shall be the *developed length* of vent piping from the *vent stack* or *stack vent* where the *header* terminates to the most distant vent or stack connected to it.

7.5.7.3. Developed Length

(1) For the purpose of Table 7.4.10.5.B. and Table 7.5.7.2.B., the length of a *vent stack* or *stack vent* shall be its *developed length* from its lower end where it connects to drainage piping to its upper end where it connects to a *header* or goes directly to *open air*.

Section 7.6. Potable Water Systems

7.6.1. Arrangement of Piping

7.6.1.1. Design, Fabrication and Installation

(1) *Potable water systems* shall be designed, fabricated and installed in accordance with good engineering practice.

(2) Every *fixture* supplied with separate hot and cold water controls shall have the hot water control on the left and the cold on the right.

(3) Where hot and cold water are mixed and the temperature is regulated by a single, unmarked, manual control, a movement to the left shall increase the temperature and a movement to the right shall decrease the temperature.

7.6.1.2. Drainage

(1) A *water distribution system* shall be installed so that the system can be drained or blown out with air and outlets for this purpose shall be provided.

7.6.1.3. Control and Shut-off Valves

(1) Every *water service pipe* shall be provided with a *building control valve* where the pipe enters the *building*.

(2) Except as provided in Sentence (3), a drain port shall be provided on the *water distribution system* immediately downstream of the *building control valve* required by Sentence (1) and if there is a meter, the drain port shall be installed immediately downstream of the meter on the *water distribution system* side of the stop and waste valve.

(3) Where the *building control valve* required by Sentence (1) is of one in. trade size or smaller, the drain port may be an integral part of the *building control valve* in the form of a stop and waste valve and the drain port shall be located on the *water distribution system* side of the stop and waste valve.

(4) Every pipe that is supplied with water from a gravity water tank or a tank of a *private water supply system* shall be provided with a shut-off valve located close to the tank.

(5) Where the water supply is to be metered, the installation of the meter, including the piping that is part of the meter installation and the valving arrangement for the meter installation, shall be according to the *water purveyor's* requirements.

(6) For the purpose of identifying the pipe material where plastic (polybutylene, polyethylene or PVC) water pipe is used underground for a service pipe, the end of the pipe inside the *building* shall be brought above ground for a distance not less than 300 mm and not greater than 450 mm.

7.6.1.4. Shut-off Valves

(1) Except for a single-family dwelling, every *riser* shall be provided with a shut-off valve at the source of supply.

7.6.1.5. Water Closets

(1) Every water closet shall be provided with a shut-off valve on its water supply pipe.

7.6.1.6. Suites

(1) Shut-off valves shall be installed in every *suite* in a *building of residential occupancy* as may be necessary to ensure that when the supply to one *suite* is shut off the supply to the remainder of the *building* is not interrupted.

7.6.1.7. Public Washroom

(1) The water supply to each *fixture* in a washroom for *public use* shall be individually valved and each valve shall be *accessible*.

7.6.1.8. Tanks

(1) Every water pipe that supplies a hot water tank, pressure vessel, *plumbing appliance* or water using device shall be provided with a

shut-off valve located close to the tank, pressure vessel, *plumbing appliance* or water using device.

7.6.1.9. Protection for Exterior Water Supply

(1) Every pipe that passes through an exterior wall to supply water to the exterior of the *building* shall be provided with a frost-proof hydrant or a stop-and-waste valve located inside the *building* and close to the wall.

(2) Where a self draining frost proof hydrant is used, a stop valve may be used in lieu of a stop-and-waste valve.

7.6.1.10. Check Valves

(1) A *check valve* shall be installed at the *building* end of the *water service pipe* where the pipe is made of plastic that is suitable for cold water use only.

7.6.1.11. Flushing Devices

(1) Every flushing device that serves a water closet or one or more urinals shall have sufficient capacity and be adjusted to deliver at each operation a volume of water that will thoroughly flush the *fixture* or *fixtures* that it serves.

(2) Where a manually operated flushing device is installed, it shall serve only one *fixture*.

7.6.1.12. Relief Valves

(1) Every pressure vessel that is part of a *plumbing system* or connected to a *plumbing system* shall be equipped with a pressure relief valve designed to open when the water pressure in the tank reaches the rated working pressure of the tank, and so located that the pressure in the tank shall not exceed 1100 kPa or 1/2 the maximum test pressure sustained by the tank whichever is the lesser.

(2) Every hot water tank of a *storage-type service water heater* shall be equipped with

- (a) a temperature relief valve with a temperature sensing element located within the top 150 mm of the tank and designed to open and discharge sufficient water from the tank to keep the temperature of the water in the tank from exceeding 99°C under all operating conditions, or
- (b) a device that
 - (i) is designed to shut off the supply of electricity or fuel to the heater,
 - (ii) is not connected to and operates independently of the thermostatic control that determines the temperature of the water in the tank, and
 - (iii) is located and maintained on or within the top 150 mm of the tank so that the maximum temperature of the water in the tank shall not exceed 99°C under all operating conditions.

(3) Every tank equipped as specified in Clause 7.6.1.12.(2)(b) shall bear the information in a clearly visible location that it is so equipped.

(4) A pressure relief valve and temperature relief valve may be combined where Sentences (1) and (2) are complied with.

(5) Every *indirect service water heater* shall be equipped with

- (a) a pressure relief valve, and

- (b) a temperature relief valve on every storage tank that forms part of the system.

(6) A temperature relief, pressure relief, or a combined temperature and pressure relief valve which is installed on a hot water tank shall have a pipe that

- (a) has a size at least equal to the size of the outlet of the valve,
- (b) is rigid, slopes downward from the valve, and
 - (i) terminates with an indirect connection above a floor drain, sump or other safe location, with an *air break* of not more than 300 mm, or
 - (ii) terminates at a distance not less than 150 mm and not more than 300 mm from a floor and discharges vertically down,
- (c) has no thread at its outlet, and
- (d) is capable of operating at a temperature of not less than 99°C.

(7) The temperature relief valve required in Clause 7.6.1.12.(5)(b) shall have a temperature sensing element located within the top 150 mm of the tank and be designed to open and discharge sufficient water to keep the temperature of the water in the tank from exceeding 99°C under all operating conditions.

(8) No shut-off valve shall be installed on the pipe between any tank and the relief valves or on the discharge lines from such relief valves.

7.6.1.13. Water Hammer

(1) Provision shall be made to protect the *water distribution system* from the adverse effects of water hammer.

7.6.1.14. Mobile Home Water Service

- (1) A *water service pipe* intended to serve a mobile home shall
 - (a) be not less than 3/4 in. size,
 - (b) be terminated above ground, and
 - (c) be provided with
 - (i) a tamperproof terminal connection that is capable of being repeatedly connected, disconnected and sealed,
 - (ii) a protective concrete pad,
 - (iii) a means to protect it from frost heave, and
 - (iv) a curb stop and a means of draining that part of the pipe located above the frost line when not in use.

7.6.1.15. Solar Domestic Hot Water Systems

(1) Systems for solar heating of *potable water* shall be installed in conformance with CAN/CSA-F383, "Installation Code for Solar Domestic Hot Water Systems".

7.6.2. Protection from Contamination

7.6.2.1. Connection of Systems

(1) Connections to *potable water systems* shall be designed and installed so that non-*potable water* or substances that may render the water non-*potable* cannot enter the system.

(2) No connection shall be made between a *potable water system* supplied with water from a *water works* approved under the *Ontario Water Resources Act* and any other *potable water system* without the consent of the *water purveyor*.

7.6.2.2. Cleaning of Systems

(1) Every newly installed part of a *potable water system* shall be clean and free of any matter that may affect the health of a person before being put into service.

7.6.2.3. Back Siphonage

(1) Every *potable water system* that supplies a *fixture* or tank that is not subject to pressures above atmospheric shall be protected against back-siphonage by a *backflow preventer*.

(2) Where a *potable water supply* is connected to a boiler, tank, cooling jacket, lawn sprinkler system or other device where a non-*potable fluid* may be under pressure that is above atmospheric or the water outlet may be submerged in the non-*potable fluid*, the water supply shall be protected against backflow by a *backflow preventer*.

(3) Where a hose bibb is installed outside a *building*, inside a garage, or where there is an identifiable risk of contamination, the *potable water system* shall be protected against backflow by a *backflow preventer*.

(4) Where a *potable water system* serves a fire protection system, the fire protection system shall be isolated from the *potable water system* in the following manner:

- (a) a wet sprinkler fire protection system containing water only shall be provided with a *listed alarm check valve* installed in conformance with NFPA 13, "Installation of Sprinkler Systems",
- (b) a wet standpipe fire protection system containing water only shall be provided with a resilient seated *check valve*,
- (c) a wet sprinkler or wet standpipe fire protection system containing anti-freeze or chemicals shall be provided with a reduced pressure principle *backflow preventer* certified to CAN/CSA-B64.4 Series, "Backflow Preventers, Reduced Pressure Principle Type (RP)",
- (d) a dry sprinkler or dry standpipe fire protection system does not require isolation,
- (e) a water storage tank fire protection system shall be provided with a *backflow preventer* certified to CAN/CSA-B64 Series, "Backflow Preventers and Vacuum Breakers",
- (f) a fire hydrant fire protection system does not require isolation,
- (g) a *fire service main* shall be provided with a reduced pressure principle *backflow preventer* certified to CAN/CSA-B64.4, "Backflow Preventers, Reduced Pressure Principle Type (RP)" if it is connected to more than one of the following different sources of supply:
 - (i) a *water works*,
 - (ii) a *private water supply system*, or
 - (iii) a source of non-*potable water*.

(5) Except as permitted in Sentences (4) and (8), *backflow prevention devices* to protect a *potable water system* from contamination shall be selected, installed and field tested in accordance with CAN/CSA-B64.10, "Backflow Prevention Devices - Selection, Installation, Maintenance and Field Testing".

(6) *Backflow* prevention devices shall be provided in conformance with Sentence 7.2.10.10.(1).

(7) Tank type water closet valves shall be provided with a *back-siphonage preventer* in conformance with Sentence 7.2.10.10.(2).

(8) *Buildings of residential occupancy* within the scope of Part 9 are not required to be isolated unless they have access to an auxiliary water supply.

7.6.2.4. Air Gap

(1) An *air gap* shall not be located in a noxious environment.

(2) Every *air gap* shall be not less than 25 mm high and at least twice the diameter of the opening of the water supply outlet in height.

7.6.2.5. Vacuum Breakers and Flood Levels

(1) Where the *critical level* is not marked on an atmospheric *vacuum breaker* or pressure *vacuum breaker*, the *critical level* shall be taken as the lowest point on the device.

(2) Where an atmospheric *vacuum breaker* is installed, it shall be located on the downstream side of the *fixture* control valve or faucet so that it will be subject to water supply pressure

(a) only when the *fixture* control valve or faucet is open, and

(b) for periods of use not to exceed 12 h continuous.

(3) An atmospheric *vacuum breaker* shall be installed so that the *critical level* is at least the distance specified by the manufacturer at which the device will operate safely but not less than 25 mm above

(a) the *flood level rim* of a *fixture* or tank, or

(b) the highest point open to atmosphere in an irrigation system.

(4) A pressure *vacuum breaker* shall be installed with its *critical level* at least 300 mm above

(a) the *flood level rim* of a *fixture* or tank, or

(b) the highest point open to atmosphere in an irrigation system.

7.6.3. Size and Capacity of Pipes

7.6.3.1. Design

(1) Except as provided in Sentence (2), the *size* of every pipe in a *water distribution system* that supplies water to a *fixture* or device shall comply with Table 7.6.3.1.

(2) Where a pipe in a *water distribution system* is not directly connected to a *fixture* or a *fixture* faucet but is connected with a flexible tube of a diameter smaller than that specified by Table 7.6.3.1., the *developed length* of the connector shall not be more than 355 mm and, where 3/8 in. pipe of iron pipe *size* is used, the maximum length shall not exceed 914 mm.

Table 7.6.3.1.

Pipe Sizing for Water Supply to Fixture/Device

Forming Part of Sentences 7.6.3.1.(1) and (2)

| Fixture or Device | Minimum Size of Supply Pipe, in. |
|--------------------------------------|----------------------------------|
| Bath tub | 1/2 |
| Combination sink and tray | 1/2 |
| Dishwasher, domestic | 1/2 |
| Drinking fountain | 3/8 |
| Hose bib | 1/2 |
| Laundry tray: 1, 2 or 3 compartments | 1/2 |
| Lavatory | 3/8 |
| Shower, single head | 1/2 |
| Sink | |
| (a) kitchen, domestic | 1/2 |
| (b) kitchen, commercial | 1/2 |
| (c) service, slop | 1/2 |
| (d) service with direct flush valve | 3/4 |
| Urinal | |
| (a) with flush tank | 1/2 |
| (b) with direct flush valve | 3/4 |
| (c) with self closing metering | 1/2 |
| Wall hydrant | 1/2 |
| Water closet | |
| (a) with flush tank | 3/8 |
| (b) with direct flush valve | 1 |
| Column 1 | 2 |

7.6.3.2. Peak Demand Flow

(1) No *water system* shall have a capacity that is less than the peak demand flow.

(2) No *water system* between the point of connection with the *water service pipe* or the water meter and the first branch that supplies a water heater, shall be less than 3/4 in. *size*.

(3) Every pipe that supplies a *fixture* shall have a capacity that will produce a flow in the *fixture* that will flush the *fixture* and keep it in a sanitary condition.

7.6.3.3. Static Pressure

(1) Where the static pressure exceeds 550 kPa, a pressure reducing valve shall be installed to limit the maximum static pressure to not more than 550 kPa in areas that may be occupied.

7.6.3.4. Size

(1) Every *water service pipe* shall be not less than 3/4 in. *trade size*.

7.6.4. Water Efficiency

7.6.4.1. Water Supply Fittings

(1) The flow rates of fittings that supply water to a *fixture* shall not exceed the maximum flow rates at the test pressures listed for that fitting in Table 7.6.4.1.

(2) Sentence (1) does not apply to a *fixture* located in a *heritage building*.

Table 7.6.4.1.

Maximum Flow Rates for Water Supply Fittings

Forming Part of Sentence 7.6.4.1.(1)

| Fitting | Maximum Flow, L/min | Test Pressure, kPa |
|-----------------|---------------------|--------------------|
| Lavatory Faucet | 8.35 | 413 |
| Kitchen Faucet | 8.35 | 413 |
| Shower Heads | 9.50 | 550 |
| Column 1 | 2 | 3 |

7.6.4.2. Plumbing Fixtures

(1) Water closets and urinals shall be certified to CAN/CSA-B45.0, "General Requirements for Plumbing Fixtures".

(2) The flush cycle for each *fixture* that is a water closet or urinal and that is installed as a replacement for a *fixture* in a *building* that existed before January 1, 1996 shall not exceed the maximum flush cycle listed for that *fixture* in Table 7.6.4.2.A.

Table 7.6.4.2.A.

Maximum Flush Cycles for Sanitary Fixtures

Forming Part of Sentence 7.6.4.2.(2)

| Fixture | litres |
|-----------------------------|---------------------|
| Water Closet (Tank Type) | 13.25 |
| Water Closet (Direct Flush) | 13.25 |
| Urinal (Tank Type) | 5.68 ⁽¹⁾ |
| Urinal (Direct Flush) | 5.68 ⁽¹⁾ |
| Column 1 | 2 |

Notes to Table 7.6.4.2.A.:

(1) Urinals equipped with automatic flushing devices shall be controlled to prevent unnecessary flush cycles during *building* down time.

(3) Except as provided in Sentence (2), the flush cycle for each *fixture* that is a water closet or urinal shall not exceed the maximum flush cycle listed for that *fixture* in Table 7.6.4.2.B.

(4) Sentences (2) and (3) do not apply to a *fixture* located in a *heritage building*, *care or detention occupancy* or *passenger station*.

Table 7.6.4.2.B.

Maximum Flush Cycles for Sanitary Fixtures

Forming Part of Sentence 7.6.4.2.(3)

| Fixture | litres |
|-----------------------------|--------------------|
| Water Closet (Tank Type) | 6.0 |
| Water Closet (Direct Flush) | 6.0 |
| Urinal (Tank Type) | 3.8 ⁽¹⁾ |
| Urinal (Direct Flush) | 3.8 ⁽¹⁾ |
| Column 1 | 2 |

Note to Table 7.6.4.2.B.:

(1) Urinals equipped with automatic flushing devices shall be controlled to prevent unnecessary flush cycles during *building* down time.

Section 7.7. Non-Potable Water Systems

7.7.1. Connection

7.7.1.1. Non-Potable Connection

(1) A *non-potable water system* shall not be connected to a *potable water system*.

7.7.2. Identification

7.7.2.1. Markings

(1) *Non-potable* water piping shall be identified by markings that are permanent, distinct and easily recognized.

7.7.3. Location

7.7.3.1. Pipes

(1) *Non-potable* water piping shall not be located

- (a) where food is prepared in a food processing plant,
- (b) above food-handling equipment,
- (c) above a non-pressurized *potable* water tank, or
- (d) above a cover of a pressurized *potable* water tank.

7.7.3.2. Outlets

(1) An outlet from a *non-potable water system* shall not be located where it can discharge into

- (a) a sink or lavatory,
- (b) a *fixture* into which an outlet from a *potable water system* is discharged, or
- (c) a *fixture* that is used for a purpose related to the preparation, handling or dispensing of food, drink or products that are intended for human consumption.

Part 8

Reserved

Part 9

Housing and Small Buildings

| | | | | | |
|---------|---------|--|---------|----------|---|
| Section | 9.1. | General | Section | 9.9. | Means of Egress |
| | 9.1.1. | Scope | | 9.9.1. | Scope |
| Section | 9.2. | Definitions | | 9.9.2. | General |
| | 9.2.1. | General | | 9.9.3. | Dimensions of Means of Egress |
| Section | 9.3 | Materials, Systems and Equipment | | 9.9.4. | Fire Protection of Exits |
| | 9.3.1. | Concrete | | 9.9.5. | Obstructions and Hazards in Means of Egress |
| | 9.3.2. | Lumber and Wood Products | | 9.9.6. | Doors in a Means of Egress |
| | 9.3.3. | Metal | | 9.9.7. | Access to Exits |
| Section | 9.4. | Structural Requirements | | 9.9.8. | Exits from Floor Areas |
| | 9.4.1. | General | | 9.9.9. | Egress from Dwelling Units |
| | 9.4.2. | Specified Loads | | 9.9.10. | Signage |
| | 9.4.3. | Deflections | | 9.9.11. | Lighting |
| | 9.4.4. | Foundation Conditions | Section | 9.10. | Fire Protection |
| Section | 9.5. | Design of Areas and Spaces | | 9.10.1. | General |
| | 9.5.1. | General | | 9.10.2. | Occupancy Classification |
| | 9.5.2. | Barrier-Free Design | | 9.10.3. | Ratings |
| | 9.5.3. | Ceiling Heights | | 9.10.4. | Building Size Determination |
| | 9.5.4. | Living Rooms or Spaces Within Dwelling Units | | 9.10.5. | Permitted Openings in Wall and Ceiling Membranes |
| | 9.5.5. | Dining Rooms or Spaces Within Dwelling Units | | 9.10.6. | Construction Types |
| | 9.5.6. | Kitchens Within Dwelling Units | | 9.10.7. | Steel Members |
| | 9.5.7. | Bedrooms or Spaces in Dwelling Units and Dormitories | | 9.10.8. | Fire Resistance in Relation to Occupancy and Height |
| | 9.5.8. | Bathrooms and Water-Closet Rooms | | 9.10.9. | Fire Separations Between Rooms and Spaces Within Buildings |
| | 9.5.9. | Hallways | | 9.10.10. | Service Rooms |
| Section | 9.6. | Doors | | 9.10.11. | Firewalls |
| | 9.6.1. | General | | 9.10.12. | Prevention of Fire Spread at Exterior Walls and between Storeys |
| | 9.6.2. | Required Doors | | 9.10.13. | Doors, Dampers and Other Closures in Fire Separations |
| | 9.6.3. | Doorway Sizes | | 9.10.14. | Spatial Separations between Buildings |
| | 9.6.4. | Door Sill Height | | 9.10.15. | Fire Stops |
| | 9.6.5. | Exterior Doors | | 9.10.16. | Flame Spread Limits |
| | 9.6.6. | Glass | | 9.10.17. | Alarm and Detection Systems |
| | 9.6.7. | Thermal Breaks | | 9.10.18. | Smoke Alarms |
| | 9.6.8. | Resistance to Forced Entry | | 9.10.19. | Fire-fighting |
| Section | 9.7. | Windows and Skylights | | 9.10.20. | Fire Protection for Construction Camps |
| | 9.7.1. | General | | 9.10.21. | Fire Protection for Gas and Electric Ranges |
| | 9.7.2. | Window Standards | Section | 9.11. | Sound Control |
| | 9.7.3. | Glass | | 9.11.1. | Sound Transmission Class Rating (Airborne Sound) |
| | 9.7.4. | Caulking and Glazing | | 9.11.2. | Required Sound Control Locations (Airborne Sound) |
| | 9.7.5. | Protection of Windows in Public Areas | Section | 9.12. | Excavation |
| | 9.7.6. | Resistance to Forced Entry | | 9.12.1. | General |
| | 9.7.7. | Skylights | | 9.12.2. | Depth |
| Section | 9.8. | Stairs, Ramps, Handrails and Guards | | 9.12.3. | Backfill |
| | 9.8.1. | Scope | | 9.12.4. | Trenches Beneath Footings |
| | 9.8.2. | General | Section | 9.13. | Dampproofing, Waterproofing and Soil Gas Control |
| | 9.8.3. | Stair Dimensions | | 9.13.1. | General |
| | 9.8.4. | Landings | | 9.13.2. | Material |
| | 9.8.5. | Curved Stairs and Winders | | 9.13.3. | Dampproofing of Walls |
| | 9.8.6. | Pedestrian Ramps | | 9.13.4. | Dampproofing of Floors-on-Ground |
| | 9.8.7. | Handrails | | 9.13.5. | Waterproofing of Walls |
| | 9.8.8. | Guards | | 9.13.6. | Waterproofing of Floors-on-Ground |
| | 9.8.9. | Construction | | | |
| | 9.8.10. | Cantilevered Precast Concrete Steps | | | |

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|---------|----------|---|---------|----------|---|
| | 9.13.7. | Soil Gas | Section | 9.21. | Chimneys and Flues |
| | | | | 9.21.1. | General |
| Section | 9.14. | Drainage | | 9.21.2. | Chimney Flues |
| | 9.14.1. | Scope | | 9.21.3. | Chimney lining |
| | 9.14.2. | Foundation Drainage | | 9.21.4. | Masonry and Concrete Chimney Construction |
| | 9.14.3. | Drainage Tile and Pipe | | 9.21.5. | Clearance from Combustible Construction |
| | 9.14.4. | Granular Drainage Layer | | | |
| | 9.14.5. | Drainage Disposal | Section | 9.22. | Fireplaces |
| | 9.14.6. | Surface Drainage | | 9.22.1. | General |
| Section | 9.15. | Footings and Foundations | | 9.22.2. | Fireplace Liners |
| | 9.15.1. | Scope | | 9.22.3. | Fireplace Walls |
| | 9.15.2. | General | | 9.22.4. | Fire Chamber |
| | 9.15.3. | Footings | | 9.22.5. | Hearth |
| | 9.15.4. | Foundation Walls | | 9.22.6. | Damper |
| | 9.15.5. | Joist and Beam Support | | 9.22.7. | Smoke Chamber |
| | 9.15.6. | Parging and Finishing | | 9.22.8. | Factory-Built Fireplaces |
| | | | | 9.22.9. | Clearance of Combustible Material |
| Section | 9.16. | Slabs-on-Ground | | 9.22.10. | Fireplace Inserts |
| | 9.16.1. | Scope | | | |
| | 9.16.2. | Granular Material beneath Floors | Section | 9.23. | Wood-Frame Construction |
| | 9.16.3. | Drainage | | 9.23.1. | Scope |
| | 9.16.4. | Concrete | | 9.23.2. | General |
| | 9.16.5. | Wood | | 9.23.3. | Fasteners |
| | | | | 9.23.4. | Maximum Spans |
| Section | 9.17. | Columns | | 9.23.5. | Notching and Drilling |
| | 9.17.1. | Scope | | 9.23.6. | Anchorage |
| | 9.17.2. | General | | 9.23.7. | Sill Plates |
| | 9.17.3. | Steel Columns | | 9.23.8. | Beams to Support Floors |
| | 9.17.4. | Wood Columns | | 9.23.9. | Floor Joists |
| | 9.17.5. | Unit Masonry Columns | | 9.23.10. | Wall Studs |
| | 9.17.6. | Solid Concrete Columns | | 9.23.11. | Wall Plates |
| | | | | 9.23.12. | Framing Over Openings |
| Section | 9.18. | Crawl Spaces | | 9.23.13. | Roof and Ceiling Framing |
| | 9.18.1. | General | | 9.23.14. | Subflooring |
| | 9.18.2. | Access | | 9.23.15. | Roof Sheathing |
| | 9.18.3. | Ventilation | | 9.23.16. | Wall Sheathing |
| | 9.18.4. | Clearance | | 9.23.17. | Wall Sheathing Paper |
| | 9.18.5. | Drainage | | | |
| | 9.18.6. | Ground Cover | Section | 9.24. | Sheet Steel Stud Wall Framing |
| | 9.18.7. | Fire Protection | | 9.24.1. | General |
| | | | | 9.24.2. | Size of Framing |
| Section | 9.19. | Roof Spaces | | 9.24.3. | Installation |
| | 9.19.1. | Venting | | | |
| | 9.19.2. | Access | Section | 9.25. | Heat Transfer, Air Leakage and Condensation Control |
| | | | | 9.25.1. | Scope |
| Section | 9.20. | Above-Grade Masonry | | 9.25.2. | Thermal Insulation |
| | 9.20.1. | Scope | | 9.25.3. | Air Barrier Systems |
| | 9.20.2. | Masonry Units | | 9.25.4. | Vapour Barriers |
| | 9.20.3. | Mortar | | | |
| | 9.20.4. | Masonry Joints | Section | 9.26. | Roofing |
| | 9.20.5. | Masonry Support | | 9.26.1. | General |
| | 9.20.6. | Thickness and Height | | 9.26.2. | Roofing Materials |
| | 9.20.7. | Chases and Recesses | | 9.26.3. | Roof Slope |
| | 9.20.8. | Support of Loads | | 9.26.4. | Flashing at Intersections |
| | 9.20.9. | Bonding and Tying | | 9.26.5. | Eave Protection for Shingles and Shakes |
| | 9.20.10. | Lateral Support | | 9.26.6. | Underlay beneath Shingles |
| | 9.20.11. | Anchorage of Roofs, Floors and Intersecting Walls | | 9.26.7. | Asphalt Shingles on Slopes of 1 in 3 and Greater |
| | 9.20.12. | Corbelling | | 9.26.8. | Asphalt Shingles on Slopes of Less than 1 in 3 |
| | 9.20.13. | Control of Rain Water Penetration | | 9.26.9. | Wood Roof Shingles |
| | 9.20.14. | Protection during Work | | 9.26.10. | Handsplit Roof Shakes |
| | 9.20.15. | Reinforcement for Earthquake Resistance | | 9.26.11. | Built-Up Roofs |
| | 9.20.16. | Corrosion Resistance | | | |

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| | 9.26.12. | Selvage Roofing | | 9.32.2. | Natural Ventilation |
| | 9.26.13. | Sheet Metal Roofing | | 9.32.3. | Mechanical Ventilation |
| | 9.26.14. | Glass Reinforced Polyester Roofing | | | |
| | 9.26.15. | Hot Applied Rubberized Asphalt Roofing | Section | 9.33. | Heating and Air-Conditioning |
| | 9.26.16. | Polyvinyl Chloride Sheet Roofing | | 9.33.1. | General |
| | 9.26.17. | Concrete Roof Tiles | | 9.33.2. | Required Heating Systems |
| | 9.26.18. | Downspouts and Roof Drains | | 9.33.3. | Design Temperatures |
| | | | | 9.33.4. | General Requirements for Heating and Air-Conditioning Systems |
| Section | 9.27. | Cladding | | 9.33.5. | Heating and Air-Conditioning Appliances |
| | 9.27.1. | Scope | | 9.33.6. | Air Duct Systems |
| | 9.27.2. | General | | 9.33.7. | Radiators and Convectors |
| | 9.27.3. | Flashing | | 9.33.8. | Piping for Heating and Cooling Systems |
| | 9.27.4. | Caulking | | 9.33.9. | Refrigerating Systems and Equipment for Air-Conditioning |
| | 9.27.5. | Attachment of Cladding | | 9.33.10. | Chimneys and Venting Equipment |
| | 9.27.6. | Lumber Siding | | | |
| | 9.27.7. | Wood Shingles and Machine Grooved Shakes | Section | 9.34. | Electrical Facilities |
| | 9.27.8. | Asbestos-Cement Shingles and Sheets | | 9.34.1. | General |
| | 9.27.9. | Plywood | | 9.34.2. | Lighting Outlets |
| | 9.27.10. | Hardboard | | 9.34.3. | Emergency Lighting |
| | 9.27.11. | OSB and Waferboard | | 9.34.4. | Service Entrance requirements |
| | 9.27.12. | Metal Siding | | | |
| | 9.27.13. | Vinyl Siding | Section | 9.35. | Garages and Carports |
| Section | 9.28. | Stucco | | 9.35.1. | Scope |
| | 9.28.1. | General | | 9.35.2. | General |
| | 9.28.2. | Stucco Materials | | 9.35.3. | Foundations |
| | 9.28.3. | Fasteners | | 9.35.4. | Walls and Columns |
| | 9.28.4. | Stucco Lath | | | |
| | 9.28.5. | Stucco Mixes | Section | 9.36. | Cottages |
| | 9.28.6. | Stucco Application | | 9.36.1. | Scope |
| | | | | 9.36.2. | General |
| Section | 9.29. | Interior Wall and Ceiling Finishes | | 9.36.3. | Tourist Accommodation |
| | 9.29.1. | General | | | |
| | 9.29.2. | Waterproof Wall Finish | Section | 9.37. | Log Construction |
| | 9.29.3. | Wood Furring | | 9.37.1. | General |
| | 9.29.4. | Plastering | | 9.37.2. | Walls |
| | 9.29.5. | Gypsum Board Finish (Taped Joints) | | 9.37.3. | Lintels |
| | 9.29.6. | Plywood Finish | | | |
| | 9.29.7. | Hardboard Finish | Section | 9.38. | Thermal design |
| | 9.29.8. | Insulating Fibreboard Finish | | 9.38.1. | Scope |
| | 9.29.9. | Particleboard, OSB or Waferboard Finish | | 9.38.2. | General |
| | 9.29.10. | Wall Tile Finish | | 9.38.3. | Thermal Resistance of Assemblies |
| | | | | 9.38.4. | Glazing |
| Section | 9.30. | Flooring | | 9.38.5. | Doors and Windows |
| | 9.30.1. | General | | 9.38.6. | Infiltration |
| | 9.30.2. | Panel-Type Underlay | | 9.38.7. | Ventilation |
| | 9.30.3. | Wood Strip Flooring | | | |
| | 9.30.4. | Parquet Flooring | Section | 9.39. | Park Model Trailers |
| | 9.30.5. | Resilient Flooring | | 9.39.1. | Scope |
| | 9.30.6. | Ceramic Tile | | 9.39.2. | General |
| | | | | 9.39.3. | Requirements |
| Section | 9.31. | Plumbing Facilities | | | |
| | 9.31.1. | Scope | Section | 9.40. | Construction of Farm Buildings |
| | 9.31.2. | General | | 9.40.1. | Scope |
| | 9.31.3. | Water Supply and Distribution | | 9.40.2. | Lumber |
| | 9.31.4. | Required Facilities | | 9.40.3. | Structural Requirements |
| | 9.31.5. | Reserved | | | |
| | 9.31.6. | Service Water Heating Facilities | Section | 9.41. | Additional Requirements for Change of Use |
| Section | 9.32. | Ventilation | | 9.41.1. | Scope |
| | 9.32.1. | General | | 9.41.2. | Requirements |

Part 9

Housing and Small Buildings

Section 9.1. General

9.1.1 Scope

9.1.1.1. Scope

- (1) The scope of this Part shall be as described in Section 2.1.

9.1.1.2. Signs

- (1) Signs shall conform to the requirements in Section 3.14.

9.1.1.3. Self-Service Storage Buildings

- (1) *Self-service storage buildings* shall conform to the requirements in Section 3.10.

9.1.1.4. Tents and Air-Supported Structures

- (1) Tents shall conform to the requirements in Subsection 3.13.1.

- (2) *Air-supported structures* shall conform to the requirements in Subsection 3.13.2.

9.1.1.5. Proximity to Existing Above Ground Electrical Conductors

- (1) Where a *building* is constructed in close proximity to existing above ground electrical conductors the requirements of Subsection 3.1.18. shall apply.

Section 9.2. Definitions

9.2.1. General

9.2.1.1. Defined Words

- (1) Words in italics are defined in Part 1.

Section 9.3. Materials, Systems and Equipment

9.3.1. Concrete

9.3.1.1. Concrete

- (1) Concrete shall be designed, mixed, placed, cured and tested in accordance with CAN3-A438-M, "Concrete Construction for Housing and Small Buildings."

9.3.1.2. Cement

- (1) Cement shall meet the requirements of CAN/CSA-A5, "Portland Cements."

9.3.1.3. Concrete in Contact with Sulfate Soil

- (1) Concrete in contact with sulfate *soil* deleterious to normal cement shall conform to the requirements in Clause 15.5 of CAN/CSA-A23.1, "Concrete Materials and Methods of Concrete Construction."

9.3.1.4. Aggregates

- (1) Aggregates shall

- (a) consist of sand, gravel, crushed rock, crushed air-cooled blast furnace slag, expanded shale or expanded clay conforming to CAN/CSA-A23.1, "Concrete Materials and Methods of Concrete Construction", and

- (b) be clean, well-graded and free of injurious amounts of organic and other deleterious material.

9.3.1.5. Water

- (1) Water shall be clean and free of injurious amounts of oil, organic matter, sediment or any other deleterious material.

9.3.1.6. Compressive Strength

- (1) Except as provided elsewhere in this Part, the compressive strength of unreinforced concrete after 28 days shall be not less than

- (a) 32 MPa for garage and carport floors and all exterior flatwork, and

- (b) 15 MPa for all other applications.

- (2) Concrete used for garage and carport floors and exterior steps shall have air entrainment of 5 to 8%.

9.3.1.7. Site Mixed Concrete

- (1) The concrete mixes described in Table 9.3.1.7. shall be considered acceptable if, when measured according to the slump test described in Appendix A of CAN3-A438-M, "Concrete Construction for Housing and Small Buildings," the slump does not exceed

- (a) 150 mm for footings for walls, columns, fireplaces and chimneys, foundation walls, grade beams and piers, or

- (b) 100 mm for garage and carport floors and all exterior flatwork.

Table 9.3.1.7.

Site Mixed Concrete Proportions⁽¹⁾

Forming Part of Sentence 9.3.1.7.(1)

| Maximum Size of Course Aggregate mm | Materials, volume | | | | | |
|-------------------------------------|-------------------|------------------|---|----|--|----|
| | Cement | | Fine Aggregate (damp average course sand) | | Course Aggregate (gravel or crushed stone) | |
| | Parts | L ⁽²⁾ | Parts | L | Parts | L |
| 14 | 1 | 28 | 1.75 | 49 | 2 | 56 |
| 20 | 1 | 28 | 1.75 | 49 | 2.5 | 70 |
| 28 | 1 | 28 | 2 | 56 | 3 | 84 |
| 40 | 1 | 28 | 2 | 56 | 3.5 | 98 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Notes to Table 9.3.1.7.:

- (1) The concrete strength obtained from these proportions will be in excess of the minimum strengths required in Sentence 9.3.1.6.(1).
 (2) A 40 kg bag of cement contains 28 L.

- (2) Aggregate for unreinforced concrete mixes referred to in Sentence (1) shall not exceed in size

- (a) 1/5 the distance between the sides of vertical forms, or

- (b) 1/3 the thickness of flatwork.

9.3.1.8. Admixtures

(1) Admixtures shall conform to CAN3-A266.1-M, "Air Entraining Admixtures for Concrete" or CAN3-A266.2-M, "Chemical Admixtures for Concrete," as applicable.

(a) kept at a temperature of not less than 10°C or more than 25°C while being placed, and

(b) maintained at a temperature of not less than 10°C for 72 h after placing.

(2) No frozen material or ice shall be used in concrete described in Sentence (1).

9.3.1.9. Reinforced Concrete

(1) Reinforced concrete shall be designed to conform to the requirements of Part 4.

9.3.2. Lumber and Wood Products**9.3.2.1. Grade Marking**

(1) Lumber for joists, rafters, trusses and beams and for the uses listed in Table 9.3.2.1. shall be identified by a grade stamp to indicate its grade as determined by the NLGA "Standard Grading Rules for Canadian Lumber."

9.3.1.10. Cold Weather Requirements

(1) When the air temperature is below 5°C, concrete shall be

Table 9.3.2.1.

Minimum Lumber Grades for Specific End Uses

Forming Part of Sentence 9.3.2.1.(1)

| Use | Boards | | | Framing |
|--|---|----------|-------------------------------|----------------------|
| | Paragraph in the NLGA grading rules under which boards are graded | | | |
| | All Species | | Eastern White Pine & Red Pine | All Species |
| | Para 113 | Para 114 | Para 118 | |
| Stud wall framing (<i>loadbearing</i> members) | — | — | — | Stud, Standard No. 2 |
| Stud wall framing (<i>non-loadbearing</i> members) | — | — | — | Stud, Utility No. 3 |
| Plank frame construction (<i>loadbearing</i> members) | No. 3 Common | — | No. 3 Common | No. 2 |
| Plank frame construction (<i>non-loadbearing</i> members) | No. 5 Common | — | No. 5 Common | Economy, No 3 |
| Post and beams less than 114 mm thickness | — | — | — | Standard, No.2 |
| Post and beams not less than 114 mm thickness | — | — | — | Standard |
| Roof sheathing | No. 3 Common | Standard | No. 4 Common | — |
| Subflooring | No. 3 common | Standard | No. 3 Common | — |
| Wall sheathing when required as a nailing base | No. 4 Common | Utility | No. 4 Common | — |
| Wall sheathing not required as a nailing base | No. 5 Common | Common | No. 5 Common | — |
| Column 1 | 2 | 3 | 4 | 5 |

9.3.2.2. Lumber Grades

(1) Except for joists, rafters, trusses and beams, visually graded lumber shall conform to the grades in Table 9.3.2.1.

(b) the standard to which it is produced, and

(c) that the material is of an exterior type.

9.3.2.3. Machine Stress Rated Lumber

(1) Machine stress rated lumber shall conform to the requirements of Subsection 4.3.1.

9.3.2.5. Moisture Content

(1) Moisture content of lumber shall be not more than 19% at the time of installation.

9.3.2.4. OSB, Waferboard and Plywood Marking

(1) OSB, waferboard and plywood used for roof sheathing, wall sheathing and subflooring shall be legibly identified on the face of the material indicating

9.3.2.6. Lumber Dimensions

(1) Lumber dimensions referred to in this Part are actual dimensions determined in conformance with CAN/CSA-O141, "Softwood Lumber".

9.3.2.7. Panel Thickness Tolerances

(1) The thickness specified in this Part for plywood, hardboard, particleboard, OSB and waferboard shall be subject to the tolerances

(a) the manufacturer of the material,

permitted in the standards referenced for these products unless specifically indicated herein.

9.3.2.8. Undersized Lumber

(1) Joist, rafter, lintel and beam members up to 5% less than the actual Canadian standard sizes are permitted to be used provided the allowable spans for the grade and species of lumber under consideration are reduced 5% from those shown in the span tables for full size members.

9.3.2.9. Termite and Decay Protection

(1) In localities where termites are known to occur, the clearance between structural wood elements and the ground shall be not less than 450 mm, unless the structural wood elements are pressure treated with a chemical that is toxic to termites.

(2) Structural wood elements shall be pressure treated with a preservative to resist decay where

- (a) the structural wood elements are in contact with the ground, or
- (b) the vertical clearance between structural wood elements and the ground is less than 150 mm.

(3) Where wood is required by this Article to be treated to resist termites or decay, such treatment shall be in accordance with the requirements of

- (a) CAN/CSA-O80.1-M, "Preservative Treatment of All Timber Products by Pressure Process",
- (b) CAN/CSA-O80.2-M, "Preservative Treatment of Lumber, Timber, Bridge Ties and Mine Ties by Pressure Process",
- (c) CAN/CSA-O80.9-M, "Preservative Treatment of Plywood by Pressure Process", or
- (d) CAN/CSA-O80.15-M, "Preservative Treatment of Wood for Building Foundation Systems, Basements and Crawl Spaces by Pressure Process".

9.3.3. Metal

9.3.3.1. Sheet Metal Thickness

(1) Minimum thickness for sheet material given in this Part refer to the actual minimum thickness measured at any point of the material, and in the case of galvanized steel, include the thickness of the coating unless otherwise indicated.

9.3.3.2. Galvanized Sheet Steel

(1) Where galvanized sheet steel is intended for use in locations exposed to weather or as a flashing material, it shall have a zinc coating not less than the G90 coating designation in

- (a) ASTM A 653, "Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanealed) by the Hot-Dip Process", or
- (b) ASTM A 924, "Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot Dip Process".

Section 9.4. Structural Requirements

9.4.1. General

9.4.1.1. Structural Design

(1) Except as provided in Sentence (2), Sentence 9.23.4.2.(2) and Subsections 9.4.2. to 9.4.4. and Subsection 9.40.3., structural members and their connections shall be designed in conformance with Part 4.

(2) Where structural members and their connections conform to the requirements listed elsewhere in this Part, it shall be deemed that the structural design requirements have been met.

9.4.1.2. Post, Beam and Plank Construction

(1) Except for columns described in Section 9.17. and beams described in Subsection 9.23.4., post, beam and plank construction with the *loadbearing* framing members spaced more than 600 mm apart shall be designed in conformance with Subsection 4.3.1.

9.4.2. Specified Loads

9.4.2.1. Application

(1) This Subsection applies to wood frame assemblies with clear spans not exceeding 12.20 m and members spaced not more than 600 mm apart.

9.4.2.2. Design Snow Loads

(1) Except as provided in Sentences (2) and (3), specified snow loads shall be not less than the composite snow load listed in Column 12 of Table 2.5.1.1.

(2) Where the entire width of a roof does not exceed 4.3 m, the specified snow load shall be not less than the composite snow load listed in Column 13 of Table 2.5.1.1.

(3) In no case shall the specified snow load be less than 1 kPa.

(4) Bow string, arch or semi-circular roof trusses having an unsupported span greater than 6 m shall be designed in conformance with the snow load requirements in Section 4.1.7.

9.4.2.3. Balconies

(1) Residential balconies not used as passageways shall be designed to carry the specified roof snow load or 1.9 kPa, whichever is greater.

9.4.2.4. Attics

(1) Residential attics having limited accessibility to preclude storage of equipment or material are permitted to be designed for a total specified load of 0.5 kPa, where the total specified load is the sum of the specified *dead load* plus the specified live ceiling load.

9.4.3. Deflections

9.4.3.1. Deflections

(1) The maximum deflection of structural members shall conform to Table 9.4.3.1.

Table 9.4.3.1.

Maximum Deflections

Forming Part of Sentence 9.4.3.1.(1)

| Structural Members | Type of Ceiling Supported | Max. Allowable Deflection as an Expressed Ratio of the Clear Span |
|---|------------------------------------|---|
| Roof rafters, roof joists, roof beams and roof decking of plank and beam construction | No ceiling | 1/180 |
| | Other than plaster or gypsum board | 1/240 |
| | Plaster or gypsum board | 1/360 |
| Ceiling joists | Other than plaster or gypsum board | 1/240 |
| | Plaster or gypsum board | 1/360 |
| Floor beams, floor joists and floor decking | All cases | 1/360 |
| Column 1 | 2 | 3 |

(2) *Dead loads* need not be considered in computing deflections referred to in Sentence (1).

9.4.4. Foundation Conditions

9.4.4.1. Allowable Bearing Pressures

(1) Where footing sizes for *shallow foundations* are not determined in conformance with Section 9.15., footings are permitted to be designed using maximum *allowable bearing pressures* in Table 9.4.4.1.

Table 9.4.4.1.

Allowable bearing Pressure for Soil or Rock

Forming Part of Sentence 9.4.4.1.(1)

| Type and Condition of Soil or Rock | Maximum Allowable Bearing Pressure, kPa |
|------------------------------------|---|
| Dense or compact sand or gravel | 150 |
| Loose sand or gravel | 50 |
| Dense or compact silt | 100 |
| Stiff clay | 150 |
| Firm clay | 75 |
| Soft clay | 40 |
| Till | 200 |
| Clay shale | 300 |
| Sound rock | 500 |
| Column 1 | 2 |

(2) The design procedures described in Section 4.2 are permitted to be used in lieu of the design procedures in this Subsection.

(3) The design procedures described in Section 4.2 shall be used where

(a) *deep foundations* are used,

(b) the footing size falls outside the scope of this Section, or

(c) the foundation is constructed on peat, filled ground or on sensitive clays as described in Article 9.15.1.1.

9.4.4.2. Foundation Capacity in Weaker Soil and Rock

(1) Where a *soil* or *rock* within a distance equal to twice the footing width below the *bearing surface* has a lower allowable bearing pressure than that at the *bearing surface* as shown in Article 9.4.4.1., the design capacity of the *foundation* shall not be greater than would cause the weakest *soil* or *rock* to be stressed beyond its *allowable bearing pressure*.

(2) In calculating subsurface pressures referred to in Sentence (1), the loads from the footings shall be assumed to be distributed uniformly over a horizontal plane within a frustum extending downward from the footing at an angle of 60° to the horizontal.

9.4.4.3. High Water Table

(1) Where a *foundation* bears on gravel, sand or silt, and the water table is within a distance below the *bearing surface* equal to the width of the *foundation*, the *allowable bearing pressure* shall be 50% of that determined in Article 9.4.4.1.

9.4.4.4. Soil Movement

(1) Where a *foundation* is located in an area in which *soil* movement caused by changes in *soil* moisture content is known to occur to the extent that it will cause significant damage to a *building*, measures shall be taken to minimize the effect of such movement on the *building*.

9.4.4.5. Walls Supporting Drained Earth

(1) Walls supporting drained earth are permitted to be designed for pressure equivalent to that exerted by a fluid with a density of not less than 480 kg/m³ and having a depth equal to that of the retained earth.

(2) Any surcharge shall be in addition to the equivalent fluid pressure specified in Sentence (1).

Section 9.5. Design of Areas and Spaces

9.5.1. General

9.5.1.1. Application

(1) Unless otherwise specifically indicated, this Section applies only to *dwelling units* that are intended for use on a continuing or year-round basis as the principal residence of the occupant.

9.5.1.2. Method of Measurement

(1) Unless otherwise indicated herein, the areas, dimensions and heights of rooms or spaces shall be measured between finished wall surfaces and between finished floor and ceiling surfaces.

9.5.1.3. Floor Areas

(1) Minimum floor areas specified in this Section do not include closets or built-in bedroom cabinets unless otherwise indicated.

9.5.1.4. Combination Rooms

(1) Two or more areas are considered as a combination room if the dividing wall occupies less than 60 per cent of the separating plane.

9.5.1.5. Lesser Areas and Dimensions

(1) Areas of rooms and spaces are permitted to be less than required in this Section provided it can be shown that the rooms and spaces are

adequate for their intended use, such as by the provision of built-in furniture to compensate for reduced sizes.

9.5.2. Barrier-Free Design

9.5.2.1. General

(1) Except as provided in Sentence (2) and Article 3.8.1.1., every building shall be designed in conformance with Section 3.8.

(2) The requirements of Section 3.8 need not be provided for houses including semi-detached houses, duplexes, triplexes, town houses, row houses and boarding, or rooming houses with fewer than 8 boarders or roomers.

9.5.2.2. Protection on Floor Areas with a Barrier-Free Path of Travel

(1) Where a barrier-free path of travel required in Article 9.5.2.1. is provided to any storey above the first storey, the requirements in Article 3.3.1.7. shall apply.

9.5.2.3. Reserved

9.5.3. Ceiling Heights

9.5.3.1. Heights of Rooms or Spaces

(1) Heights of rooms or spaces in residential occupancies and live/work units shall conform to Table 9.5.3.1.

Table 9.5.3.1.

Room Heights

Forming Part of Sentence 9.5.3.1.(1)

| Room or Space | Minimum Heights |
|--|---|
| Living room or space, dining room or space, kitchen or kitchen space | 2 300 mm over at least 75 per cent of the required floor area with a clear height of 2 100 mm at any point over the required area |
| Bedroom or bedroom space | 2 300 mm over at least 50 per cent of the required area or 2 100 mm over all of the required floor area. Any part of the floor having a clear height of less than 1 400 mm shall not be considered in computing the required floor area |
| Basement space | 2 100 mm over at least 75 per cent of the basement area except that under beams and ducts the clearance is permitted to be reduced to 1 950 mm |
| Bathroom, water-closet room or laundry area above grade | 2 100 mm in any area where a person would normally be in a standing position |
| Passage, hall or main entrance vestibule and finished rooms not specifically mentioned above | 2 100 mm |
| Column 1 | 2 |

9.5.3.2. Mezzanines

(1) The clear height above and below a mezzanine floor assembly in all occupancies shall be not less than 2 100 mm.

9.5.3.3. Storage Garages

(1) The clear height in a storage garage shall be not less than 2 000 mm.

9.5.4. Living Rooms or Spaces Within Dwelling Units

9.5.4.1. Areas of Living Rooms and Spaces

(1) Living areas within dwelling units, either as separate rooms or in combination with other spaces, shall have an area not less than 13.5 m².

(2) Where the area of a living space is combined with a kitchen and dining area, the living area alone in a dwelling unit that contains sleeping accommodation for not more than 2 persons shall be not less than 11 m².

9.5.5. Dining Rooms or Spaces Within Dwelling Units

9.5.5.1. Area of Dining Rooms or Spaces

(1) A dining space in combination with other space shall have an area of not less than 3.25 m².

(2) Dining rooms not combined with other space shall have a minimum area of 7 m².

9.5.6. Kitchens Within Dwelling Units

9.5.6.1. Kitchen Areas

(1) Kitchen areas within dwelling units either separate from or in combination with other spaces, shall have an area of not less than 4.2 m² including the area occupied by the base cabinets, except that in dwelling units containing sleeping accommodation for not more than 2 persons, the minimum area shall be 3.7 m².

9.5.7. Bedrooms or Spaces in Dwelling Units and Dormitories

9.5.7.1. Areas of Bedrooms

(1) Except as provided in Articles 9.5.7.2. and 9.5.7.3., bedrooms in dwelling units shall have an area not less than 7 m² where built-in cabinets are not provided and not less than 6 m² where built-in cabinets are provided.

9.5.7.2. Areas of Master Bedrooms

(1) Except as provided in Article 9.5.7.3., not less than one bedroom in every dwelling unit shall have an area of not less than 9.8 m² where built-in cabinets are not provided and not less than 8.8 m² where built-in cabinets are provided.

9.5.7.3. Areas of Combination Bedrooms

(1) Bedroom spaces in combination with other spaces in dwelling units shall have an area not less than 4.2 m².

9.5.7.4. Areas of Other Sleeping Rooms

(1) Sleeping rooms other than in dwelling units shall have an area not less than 7 m² per person for single occupancy and 4.6 m² per person for multiple occupancy.

9.5.7.5. Recreational Camps

(1) *Recreational camps* shall have an area in the sleeping quarters of at least 3.72 m² per camper or, if double or triple tier bunk units are used, 2.79 m² per camper.

9.5.7.6. Camps for Housing Workers

(1) A *camp for housing of workers* shall have a minimum area of 3.72 m² per employee in every room used for sleeping purposes.

9.5.8. Bathrooms and Water-Closet Rooms**9.5.8.1. Space to Accommodate Fixtures**

(1) In every *dwelling unit* an enclosed space of sufficient size shall be provided to accommodate a water closet, lavatory and bathtub or shower stall.

9.5.9. Hallways**9.5.9.1. Width of Hallway Within Dwelling Unit**

(1) The unobstructed width of a hallway within a *dwelling unit* shall be at least 860 mm, except that the hallway width is permitted to be 710 mm where

- (a) there are only bedrooms and bathrooms at the end of the hallway furthest from the living area, and
- (b) a second *exit* is provided
 - (i) in the hallway near the end furthest from the living area, or
 - (ii) in each bedroom served by the hallway.

Section 9.6. Doors**9.6.1. General****9.6.1.1. Application**

(1) This Section applies to doors, to glazed areas in doors and to sidelights for doors.

9.6.2. Required Doors**9.6.2.1. Doors for Dwelling Units**

(1) A door shall be provided at each entrance to a *dwelling unit* and to each room containing a water closet within a *dwelling unit*.

9.6.3. Doorway Sizes**9.6.3.1. Doorway Opening Sizes**

(1) Except as provided in Articles 9.6.3.3. and 9.9.6.4., doorway openings within dwelling units shall be designed to accommodate at least the door sizes in Table 9.6.3.1. for swing-type doors or folding doors.

Table 9.6.3.1.**Minimum Size of Door**

Forming Part of Sentence 9.6.3.1.(1)

| At Entrance to: | Minimum Width, mm | Minimum Height, mm |
|--|-------------------|--------------------|
| <i>Dwelling unit</i> (required entrance) Vestibule or entrance hall | 810 | 1 980 |
| Stairs to a floor level that contains a finished space All doors in not less than one line of passage from the exterior to the <i>basement</i> Utility rooms | 810 | 1 980 |
| Walk-in closet | 610 | 1 980 |
| Bathroom, water-closet room, shower room ⁽¹⁾ | 610 | 1 980 |
| Rooms located off hallways that are permitted to be 710 mm wide | 610 | 1 980 |
| Rooms not mentioned above, exterior balconies | 760 | 1 980 |
| Column 1 | 2 | 3 |

Note to Table 9.6.3.1.:

(1) See Article 9.6.3.3.

9.6.3.2. Doors to Public Water-Closet Rooms

(1) Doors to public water-closet rooms shall be not less than 810 mm wide and 2 030 mm high.

9.6.3.3. Doors to Bathrooms

(1) Where a *barrier-free* path of travel conforming to Section 3.8. is provided into a *suite of residential occupancy* and where a bathroom within the *suite* is at the level of the *suite* entrance door, the doorway to such bathroom and to each bedroom at the same level as such bathroom shall have, when the door is in the open position, a clear width of not less than

- (a) 760 mm where the door is served by a corridor or space not less than 1 060 mm wide, and
- (b) 810 mm where the door is served by a corridor or space less than 1 060 mm wide.

9.6.4. Door Sill Height**9.6.4.1. Height of Door Sills Above Floors or Ground**

(1) Doors in *buildings of residential occupancy* shall conform to Sentence (2) where

- (a) the top surface of the sill of a door, including sliding doors, is located less than 200 mm above the finished floor on one side of the door, and
 - (b) the finished floor referred to in Clause (a) is more than 600 mm above the floor, landing, stair tread or ground level on the other side of the door.
- (2) Doors described in Sentence (1) shall be
- (a) permanently adjusted to prevent an opening greater than

(i) 200 mm where the height described in Clause (1)(b) is not more than 1 800 mm, and

(ii) 100 mm where the height described in Clause (1)(b) is greater than 1 800 mm, or

(b) be protected by a guard in accordance with Section 9.8.

9.6.5. Exterior Doors

9.6.5.1. Exterior Wood Doors

(1) Exterior wood doors shall conform to CAN/CSA-O132.2-M, "Wood Flush Doors".

(2) Each door described in Sentence (1) shall indicate legibly

(a) the name of the manufacturer,

(b) the standard to which it is produced, and

(c) that it is of an exterior type.

9.6.5.2. Sliding Doors

(1) Sliding doors shall conform to CAN/CGSB 82.1-M, "Sliding Doors".

9.6.5.3. Insulated Steel Doors

(1) Insulated steel doors shall conform to CAN/CGSB-82.5-M, "Insulated Steel Doors".

9.6.5.4. Air Infiltration for Exterior Swing Type Doors

(1) Except where a door is weather-stripped on all edges, and protected with a storm door, or by an enclosed unheated space, an exterior swing type door assemblies shall have a rate of air infiltration not exceeding $11.6 \times 10^{-4} \text{ m}^3/\text{s}$ for each metre of crack length when tested at a pressure differential of 75 Pa in conformance with ASTM E283, "Standard Method of Test for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors".

9.6.5.5. Air Infiltration for Patio Type Sliding Doors

(1) A patio type sliding glass door shall have a rate of air infiltration not exceeding $38 \times 10^{-4} \text{ m}^3/\text{s}$ for each square metre of door area when tested in conformance with ASTM E283.

9.6.5.6. Weather Stripping

(1) In buildings of *residential occupancy* weather stripping shall be provided around all exterior doors except garage doors.

9.6.6. Glass

9.6.6.1. Maximum Area of Glass

(1) The maximum area of individual panes of glass for doors shall conform to Table 9.6.6.1.

Table 9.6.6.1.

Maximum Glass Area for Doors

Forming Part of Sentence 9.6.6.1.(1)

| Glass Thickness, mm | Maximum Glass Area, m | | | | | |
|---------------------|-----------------------|---|-----------|-------|-------------------|----------------|
| | Type of Glass | | | | | |
| | Annealed | Annealed Multiple-Glazed Factory-Sealed Units | Laminated | Wired | Heat Strengthened | Fully Tempered |
| 3 | 0.50 | 0.70 | (2) | (2) | 1.00 | 1.00 |
| 4 | 1.00 | 1.50 | (2) | (2) | 1.50 | 4.00 |
| 5 | 1.50 | 1.50 | (2) | (2) | 1.50 | No limit |
| 6 | 1.50 | 1.50 | 1.20 | 1.00 | 1.50 | No limit |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Notes to Table 9.6.6.1.

(2) Not generally available.

9.6.6.2. Glass in Doors and Sidelights

(1) Glass in doors and sidelights for doors shall conform to Sentence 9.7.3.1.(1).

(2) Glass in sidelights greater than 500 mm wide that could be mistaken for doors, glass in storm doors and glass in sliding doors within or at every entrance to a dwelling unit and in public areas shall be

(a) safety glass of the tempered or laminated type conforming to CAN/CGSB-12.1-M, "Tempered or Laminated Safety Glass", or

(b) wired glass conforming to CAN/CGSB-12.11-M, "Wired Safety Glass".

(3) Except as provided in Article 9.7.5.2., glass in entrance doors to dwelling units and in public areas other than the entrance door described in Sentence (2), shall be safety glass or wired glass of the type described in Sentence (2) where the glass area exceeds 0.5 m^2 and extends to less than 900 mm from the bottom of the door.

9.6.6.3. Mirrored Glass Doors

(1) Mirrored glass doors are permitted to be used only at the entrance to clothes closets and shall conform to the requirements of CAN/CGSB-82.6-M, "Doors, Mirrored Glass, Sliding or Folding Wardrobe".

(2) Mirrored glass doors reinforced with a film backing shall meet the impact resistance requirements specified in CAN2-12.5-M, "Mirrors, Silvered".

9.6.6.4. Visibility of Glass or Transparent Doors

(1) Except as provided in Article 9.7.5.3., every glass or transparent door accessible to the public shall be equipped with hardware, bars or other permanent fixtures designed so that the existence and position of such door will be readily apparent.

9.6.6.5. Glass for Shower or Bathtub Enclosures

(1) Glass other than safety glass shall not be used for a shower or bathtub enclosure.

9.6.7. Thermal Breaks

9.6.7.1. Application

(1) This Subsection applies to doors and sidelights separating heated space from unheated space or the exterior.

9.6.7.2. Required Thermal Breaks

(1) Except as provided in Sentence (2), metal frames for doors, for glazing in doors, and for sidelights for doors shall incorporate a thermal break.

(2) Thermal breaks need not be installed in accordance with Sentence (1) where the doors are

- (a) garage doors,
- (b) storm doors, or
- (c) doors that are required to have a *fire-resistance rating*.

9.6.8. Resistance to Forced Entry

9.6.8.1. Application

(1) Except as permitted in Sentence (2), this Subsection applies to

- (a) swinging entrance doors to dwelling units,
- (b) swinging doors between dwelling units and attached garages or other ancillary spaces, and
- (c) swinging doors which provide access directly or indirectly from a storage garage to a dwelling unit.

(2) Sentence (1) does not apply to exterior doors to garages and to other ancillary spaces.

9.6.8.2. Wood Doors

(1) Except as permitted in Article 9.6.8.10., wood doors as described in Sentence 9.6.8.1.(1) shall

- (a) be solid core or stile and rail type,
- (b) be not less than 45 mm thick, and
- (c) if of the stile and rail panel type, have a panel thickness of not less than 19 mm, with a total panel area not more than half of the door area.

9.6.8.3. Deadbolt Lock

(1) Except as permitted in Article 9.6.8.10., doors described in Sentence 9.6.8.1.(1) shall be provided with a deadbolt lock with a cylinder having no fewer than 5 pins and a bolt throw not less than 25 mm, protected with a solid or hardened free-turning ring or bevelled cylinder housing.

9.6.8.4. Double Doors

(1) Except as permitted in Article 9.6.8.10., an inactive leaf in double doors used in locations specified in Sentence 9.6.8.1.(1) shall be provided with heavy duty bolts top and bottom having an engagement of not less than 15 mm.

9.6.8.5. Fastening of Hinges

(1) Except as permitted in Article 9.6.8.10., hinges for doors in Sentence 9.6.8.1.(1) shall be fastened to wood doors with wood screws not less than 25 mm long and to wood frames with wood screws such that at least two screws per hinge penetrate not less than 30 mm into solid wood.

(2) Except as permitted in Article 9.6.8.10., hinges for doors in Sentence 9.6.8.1.(1) shall be fastened to metal doors and metal frames with machine screws not smaller than No. 8 and not less than 10 mm long.

9.6.8.6. Fastening of Strikeplates

(1) Except as permitted in Article 9.6.8.10., strikeplates for deadbolts described in Sentence 9.6.8.3. shall be fastened to wood frames with wood screws that penetrate not less than 30 mm into solid wood.

(2) Except as permitted in Article 9.6.8.10., strikeplates for deadbolts in Sentence 9.6.8.3. shall be fastened to metal frames with machine screws not smaller than No. 8 and not less than 10 mm long.

9.6.8.7. Outward Swinging Doors

(1) Except for storm doors or screen doors, doors described in Sentence 9.6.8.1.(1) which swing outward shall be provided with hinges or pins so that the doors cannot be removed when they are in the closed position.

9.6.8.8. Door Viewer

- (1) Main entrance doors to *dwelling units* shall be provided with
 - (a) a door viewer or transparent glazing in the door, or
 - (b) a sidelight.

9.6.8.9. Solid Blocking

(1) Solid blocking shall be provided on both sides at the lock height between the jambs for doors described in Sentence 9.6.8.1.(1) and the structural framing so that the jambs will resist spreading by force.

9.6.8.10. Alternate Test Procedure

(1) Doors, frames and hardware which conform to a security level of at least Grade 10 as described in the Annex to ASTM F476, "Standard Test Methods for Security of Swinging Door Assemblies", are not required to conform to Articles 9.6.8.2. to 9.6.8.6.

Section 9.7. Windows and Skylights

9.7.1. General

9.7.1.1. Application

(1) Windows shall conform to the requirements of this Section.

9.7.1.2. Minimum Window Areas

(1) Except as required in Article 9.7.1.3. and Sentence (3), the minimum window glass area for rooms in *buildings of residential occupancy* or which are used for sleeping shall conform to Table 9.7.1.2.

Table 9.7.1.2.**Glass Areas for Rooms of Residential Occupancy**

Forming Part of Sentence 9.7.1.2.(1)

| Location | Minimum Unobstructed Glass Area | |
|--|----------------------------------|----------------------------------|
| | With No Electric Lighting | With Electric Lighting |
| Laundry, <i>basement</i> recreation room, unfinished <i>basement</i> | 4% of area served | Windows not required |
| Water-closet room | 0.37 m ² | Windows not required |
| Kitchen, kitchen space, kitchen alcove | 10% of area served | Windows not required |
| Living rooms and dining rooms | 10% of area served | 10% of area served |
| Bedrooms and other finished rooms not mentioned above | 5% of area served ⁽¹⁾ | 5% of area served ⁽¹⁾ |
| Column 1 | 2 | 3 |

Note to Table 9.7.1.2.:

⁽¹⁾ See Article 9.7.1.3.

(2) The unobstructed glass area of a door or skylight is considered equivalent to that of a window.

(3) Work areas in *live/work units* shall conform to Clause 3.7.2.1.(2)(a).

9.7.1.3. Bedroom Windows

(1) Except where a door on the same floor level as the bedroom provides direct access to the exterior, every floor level containing a bedroom in a *suite* shall be provided with

- (a) at least 1 outside window that can be opened from the inside without the use of tools, and
- (b) each such window shall provide an individual, unobstructed open portion having a minimum area of 0.35 m² with no dimension less than 380 mm.

(2) Except for *basement* areas, the window described in Sentence (1) shall have a maximum sill height of 1 000 mm above the floor.

(3) When sliding windows are used, the minimum dimension described in Sentence (1) shall apply to the openable portion of the window.

(4) Where the sleeping area within a *live/work unit* is on a *mezzanine* with no obstructions more than 1 070 mm above the floor, the window required in Sentence (1) may be provided on the main level of the *live/work unit* provided the *mezzanine* is not more than 25% of the area of the *live/work unit* or 20 m² whichever is less and an unobstructed direct path of travel is provided from the *mezzanine* to this window.

9.7.1.4. Window Opening Into a Window-Well

(1) Where a window required in Article 9.7.1.3. opens into a window-well, a clearance of not less than 550 mm shall be provided in front of the window.

(2) Where the sash of a window referred to in Sentence (1) swings towards the window-well, the operation of the sash shall not reduce the clearance in a manner that would restrict escape in an emergency.

9.7.1.5. Termites

(1) In localities where termites are known to occur and where windows or other openings at or below *grade* contain wood elements, the bottom of window wells or adjacent ground shall be at least 150 mm below the nearest wood unless the wood is pressure treated with a chemical toxic to termites in accordance with Article 9.3.2.9.

9.7.1.6. Height of Window Sills above Floors or Ground

(1) Except as provided in Sentence (2), openable windows in *buildings of residential occupancy* shall be protected by

- (a) a guard in accordance with Section 9.8., or
- (b) a mechanism capable of controlling the free swinging or sliding of the openable part of the window so as to limit any clear unobstructed opening to not more than 100 mm measured either vertically or horizontally where the other dimension is greater than 380 mm.

(2) Windows need not be protected in accordance with Sentence (1) where

- (a) the window serves a *dwelling unit* that is not located above another *suite*,
- (b) the only opening greater than 100 mm by 380 mm is a horizontal opening at the top of the window,
- (c) the top surface of the window sill is located more than 480 mm above the finished floor on one side of the window, or
- (d) the window is located in a room or space with the finished floor described in Clause (c) located less than 1 800 mm above the floor or ground on the other side of the window.

9.7.1.7. Air Infiltration of Exterior Windows

(1) Air infiltration of exterior windows shall not exceed .775 dm³/s for each metre of sash crack when tested at a pressure differential of 75 Pa in conformance with ASTM E283, "Standard Method of Test Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors".

9.7.2. Window Standards**9.7.2.1. Window Standard**

(1) Windows shall conform with CAN/CSA-A440-M, "Windows", but need not meet air tightness, water tightness and wind load resistance requirements more stringent than those for classifications A1, B1 and C1 in CAN/CSA-A440-M.

9.7.3. Glass**9.7.3.1. Glass Standards**

(1) Glass shall conform to

- (a) CAN/CGSB-12.1-M, "Tempered or Laminated Safety Glass",

- (b) CAN/CGSB-12.2-M, "Flat, Clear Sheet Glass",
- (c) CAN/CGSB-12.3-M, "Flat, Clear Float Glass",
- (d) CAN/CGSB-12.4-M, "Heat-Absorbing Glass",
- (e) CAN/CGSB-12.8-M, "Insulating Glass Units",
- (f) CAN/CGSB-12.10, "Glass, Light and Heat/Reflecting", or
- (g) CAN/CGSB-12.11-M, "Wired Safety Glass".

9.7.3.2. Structural Design of Glass

(1) Glass in windows, sloped glazing and skylights shall be designed in conformance with CAN/CGSB-12.20-M, "Structural Design of Glass for Buildings".

9.7.4. Caulking and Glazing

9.7.4.1. Sealing Compound

(1) The sealing compound used to seal the glass component of a factory-sealed double-glazed unit to the sash component shall be compatible with the material used to edge seal the glass component.

9.7.4.2. Caulking Compound

(1) Caulking shall be provided between window frames or trim and the exterior siding or masonry in conformance with Subsection 9.27.4.

9.7.5. Protection of Windows in Public Areas

9.7.5.1. Transparent Panels

(1) Except as provided in Article 9.7.5.2., transparent panels that could be mistaken as a *means of egress* shall be protected by barriers or railings.

9.7.5.2. Sliding Glass Partitions

(1) Sliding glass *partitions* which separate a *public corridor* from an adjacent *occupancy* and which are open during working hours need not conform to Article 9.7.5.1. and Sentence 9.6.6.2.(3), except that such *partitions* shall be suitably marked to indicate their existence and position.

9.7.5.3. Windows in Exit Stairways

(1) Windows in *exit* stairways that extend to less than 1 070 mm above the landing shall be

- (a) protected by *guards*, in accordance with Section 9.8, or
- (b) non-operable and designed to withstand the specified loads for balcony *guards* as provided in Part 4.

9.7.5.4. Windows above the Second Storey

(1) Windows in public areas that extend to less than 1 000 mm from the floor and are located above the second *storey* in *buildings* of *residential occupancy* shall be

- (a) protected by *guards* in accordance with Section 9.8., or
- (b) non-openable and designed to withstand the lateral design loads for balcony *guards* in Part 4.

9.7.6. Resistance to Forced Entry

9.7.6.1. Forced Entry Through Windows

(1) In *dwelling units*, windows, any part of which is located within 2 000 mm of adjacent ground level, shall conform to the requirements for resistance to forced entry as described in Clause 10.13 of CAN/CSA-A440-M, "Windows".

9.7.7. Skylights

9.7.7.1. Plastic Skylights

(1) Plastic skylights shall conform to CAN/CGSB- 63.14-M, "Plastic Skylights".

9.7.7.2. Glass Skylights

(1) Factory-built glass skylights shall meet the performance requirements of CAN/CGSB-63.14-M, "Plastic Skylights".

Section 9.8. Stairs, Ramps, Handrails and Guards

9.8.1. Scope

9.8.1.1. Application

(1) This Section applies to the design and construction of interior and exterior stairs, steps, ramps, railings and *guards*.

9.8.1.2. Exit Stairs

(1) Where the stair forms part of an *exit*, the appropriate requirements in Sections 9.9. and 9.10. shall also apply.

9.8.1.3. Escalators and Moving Walkways

(1) Escalators and moving walkways shall conform to the appropriate requirements in Part 3.

9.8.2. General

9.8.2.1. Uniform Treads and Risers

(1) Treads and risers shall have uniform rise and run in any one flight.

(2) A stairway that is not an *exit* is permitted to contain both a curved and straight portions of stairs in a single flight provided each curved portion conforms to Article 9.8.5.2. and the riser height is uniform throughout the flight.

9.8.2.2. Minimum Number of Risers

(1) Except for interior stairs within a *dwelling unit*, at least 3 risers shall be provided for interior stairs.

9.8.2.3. Interior Stairs Extending Through the Roof

(1) Interior stairways extending through the roof of a *building* shall be protected from ice and snow.

9.8.3. Stair Dimensions

9.8.3.1. Rise, Run and Tread Depth of Stairs

(1) Except as provided in Subsection 9.8.5., the rise, run and tread depth of stairs shall conform to Table 9.8.3.1.

Table 9.8.3.1.

Rise, Run and Tread Depth of Stairs

Forming Part of Sentence 9.8.3.1.(1)

| Stair Type | Rise, mm | | Run, mm | | Tread Depth, mm | |
|--|----------|------|---------|----------|-----------------|----------|
| | max. | min. | max. | min. | max. | min. |
| Service and mezzanines in live/work units ⁽¹⁾ | no limit | 125 | 355 | no limit | 355 | no limit |
| Private ⁽²⁾ | 200 | 125 | 355 | 210 | 355 | 235 |
| Public ⁽³⁾ | 200 | 125 | 355 | 230 | 355 | 250 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Notes to Table 9.8.3.1.:

- (1) Service stairs serve areas used only as *service rooms* or *service spaces* and stairs that serve *mezzanines* not exceeding 20 m² within *live/work units*.
 (2) Private stairs are interior stairs within *dwelling units* and exterior stairs serving a single *dwelling unit*.
 (3) Public stairs are all stairs not described as service stair or private stairs.

9.8.3.2. Nosings

- (1) Curved or bevelled leading edges of treads

- (a) shall not reduce the required tread depth by more than 15 mm, and
 (b) shall not, in any case, exceed 25 mm horizontally.

9.8.3.3. Stair Width

- (1) *Exit* stairs and stairs used by the public shall have a width, measured between wall faces or *guards*, of not less than 900 mm.
 (2) At least 1 stairway between each floor level in a *dwelling unit* shall have a width between wall faces of not less than 860 mm.

9.8.3.4. Headroom

- (1) The headroom measured vertically from a line drawn through the outer edges of the nosings shall be at least 1 950 mm for stairs located in *dwelling units* and 2 050 mm for all other stairs.

9.8.4. Landings

9.8.4.1. Dimensions of Landings

- (1) Landings shall be at least as wide and as long as the width of stairs in which they occur, except that
 (a) the length of landing for exterior stairs serving not more than 1 *dwelling unit* need not exceed 900 mm, and
 (b) the length of landing for all other stairs in a straight run need not exceed 1 100 mm.

9.8.4.2. Required Landings

- (1) Where a door swings towards a stair, the full arc of its swing shall be over a landing.
 (2) Except as provided in Sentence (3), a landing shall be provided at the top and bottom of each flight of interior stairs and where a doorway occurs in a stairway.

- (3) Where a door at the top of a stair in a *dwelling unit* swings away from the stair, no landing is required between the doorway and the stairs.

- (4) A landing shall be provided at the top of all exterior stairs, except that a landing is permitted to be omitted at a secondary entrance to a *building* containing a single *dwelling unit* provided the stair does not contain more than 3 risers.

9.8.4.3. Height between Landings

- (1) The vertical height between any landings shall not exceed 3.7 m.

9.8.4.4. Height over Landings

- (1) The clear height over landings shall be not less than 1 950 mm in *dwelling units* and 2 050 mm for other landings.

9.8.5. Curved Stairs and Winders

9.8.5.1. Curved Stairs in Exits

- (1) Curved stairs used in *exits* shall conform to the requirements of Article 3.4.6.8.

9.8.5.2. Curved Stairs not in Exits

- (1) Except as permitted in Article 9.8.5.3., a curved stair not required as an *exit* shall have an average run of not less than 200 mm and a minimum run of 150 mm and shall have risers conforming to Article 9.8.3.1.

9.8.5.3. Winders

- (1) Stairs within *dwelling units* are permitted to contain winders that converge to a centre point provided
 (a) the winders turn through an angle of not more than 90°,
 (b) individual treads turn through an angle of not less than 30° or not more than 45°, and
 (c) adjacent winders turn through the same angle.

- (2) Where more than one set of winders described in Sentence (1) is provided in a single stairway between adjacent floor levels, such winders shall be separated in plan by at least 1 200 mm.

9.8.6. Pedestrian Ramps**9.8.6.1. Ramps in a Barrier-Free Path of Travel**

(1) Ramps in a *barrier-free* path of travel shall conform to the requirements in Section 3.8.

9.8.6.2. Maximum Slope

(1) Except as provided in Article 9.8.6.1., the slope of interior pedestrian ramps shall be not more than

- (a) 1 in 10 for *residential occupancies*,
- (b) 1 in 6 for *mercantile or industrial occupancies*, and
- (c) 1 in 8 for all other *occupancies*.

(2) Except as provided in Article 9.8.6.1., the slope of every exterior ramp shall be not more than 1 in 10.

9.8.6.3. Level Areas on Ramps

(1) Except as provided in Article 9.8.6.1., where a doorway or stairway opens onto the side of a ramp, there shall be a level area extending across the full width of the ramp and for a distance of not less than 300 mm on either side of the wall opening.

(2) Except as provided in Article 9.8.6.1., where a doorway or stairway opens onto the end of a ramp, there shall be a level area extending across the full width of the ramp and along it for not less than 900 mm.

9.8.7. Handrails**9.8.7.1. Required Handrails**

(1) Except as permitted in Sentences (2) and (3), a handrail shall be provided on

- (a) at least one side of stairs less than 1 100 mm in width,
- (b) two sides of stairs 1 100 mm in width or greater, and
- (c) two sides of a curved stair used as an *exit*.

(2) Handrails are not required for stairs within *dwelling units* having not more than 2 risers, or for exterior stairs having not more than 3 risers and serving not more than one *dwelling unit*.

(3) Only one handrail is required on exterior stairs having more than 3 risers provided such stairs serve not more than one *dwelling unit*.

9.8.7.2. Continuous Handrail

(1) Except as provided in Sentence (2), at least one handrail shall be continuous throughout the length of the stairway, including landings, except where interrupted by

- (a) doorways, or
- (b) newel posts at changes in direction.

(2) For stairs serving only 1 *dwelling unit*, at least one handrail shall be continuous throughout the length of the stairway except where interrupted

- (a) by doorways,

(b) by newel posts,

(c) at landings, or

(d) at changes in direction.

9.8.7.3. Termination of Handrails

(1) Handrails shall be terminated in a manner that will not obstruct pedestrian travel or create a hazard.

(2) Except for stairways serving only 1 *dwelling unit*, at least one handrail at the sides of a stairway or ramp shall extend horizontally not less than 300 mm beyond the top and bottom of the stairway or ramp.

9.8.7.4. Height of Handrails

(1) Height of handrails on stairs and ramps shall be measured vertically from a line drawn

- (a) through the outside edges of the stair nosing, or
- (b) from the surface of the ramp, floor or landing below the handrail.

(2) Except as provided in Sentences (3) and (4), the height of handrails on stairs and ramps shall be

- (a) not less than 800 mm, and
- (b) not more than 965 mm.

(3) Where *guards* are required, handrails on landings are permitted to be not more than 1 070 mm in height.

(4) Handrails not meeting the requirements of Sentences (2) and (3) are permitted provided they are installed in addition to the required handrails.

9.8.7.5 Ergonomic Design

(1) A clearance of not less than 40 mm shall be provided between each handrail and the wall to which it is fastened.

(2) Required handrails shall be constructed so as to be continually graspable along their entire length with no obstruction on or above them to break a handhold, except where the handrail is interrupted by newels at changes in direction.

9.8.7.6. Projections into Stairway

(1) Handrails and constructions below handrails, including handrail supports and stair stringers shall not project more than 100 mm into the required width of a stairway.

9.8.7.7. Handrails for Ramps

(1) Where ramps are used in lieu of stairs, the handrail requirements for stairs in Articles 9.8.7.1. to 9.8.7.8. shall apply where the gradient exceeds 1 in 10.

9.8.7.8. Attachment of Handrails

(1) Handrails shall be attached to wood studs, wood blocking, steel studs or masonry at points spaced not more than 1 200 mm apart.

(2) Attachment to wood studs and wood blocking required in Sentence (1) shall consist of not less than 2 wood screws at each point, penetrating not less than 32 mm into solid wood.

9.8.8. Guards**9.8.8.1. Required Guards**

(1) Except for the edges of floor pits in *repair garages* and loading docks, every surface to which access is provided for other than

maintenance purposes, including but not limited to exterior landings, porches, decks, balconies, *mezzanines*, galleries, raised *walkways* and roofs, shall be protected by a *guard* on each side which is not protected by a wall and where there is a difference in elevation to adjacent surfaces of more than 600 mm.

(2) Every exterior stair with more than 6 risers and every ramp shall be protected with *guards* on all open sides where the difference in elevation between the adjacent ground level and the stair or ramp exceeds 600 mm.

(3) When an interior stair has more than 2 risers, the sides of the stair and the landing or floor level around the stair well shall be enclosed by walls, or be protected by *guards*, except that a stair to an unfinished *basement* in a *dwelling unit* is permitted to have 1 unprotected side.

9.8.8.2. Height of Guards

(1) Except as provided in Sentences (2) to (4), all *guards*, including those for balconies, shall be at least 1 070 mm high.

(2) *Guards* for porches, decks, landings and balconies are permitted to be a minimum of 900 mm high where

(a) the walking surface of the porch, deck, landing or balcony served by the *guard* is not more than 1 800 mm above the finished ground level, and

(b) the porch, deck, landing or balcony serves not more than one *dwelling unit*.

(3) Except as provided in Sentence (4), *guards* for stairs shall be not less than 900 mm high measured vertically from a line drawn through the outside edges of the stair nosings, and 1 070 mm high at landings.

(4) *Guards* for stairs within *dwelling units* and stairs serving not more than one *dwelling unit* shall be not less than 800 mm measured vertically above a line drawn through the outside edges of stair nosings, and not less than 900 mm above landings.

(5) All required *guards* within *dwelling units* other than those described in Sentence (4) shall be not less than 900 mm high.

9.8.8.3. Guards for Floors and Ramps in Garages

(1) Except for floors of garages referred to in Section 9.35., a continuous curb not less than 150 mm in height and a *guard* not less than 1 070 mm above the floor level shall be provided at every opening through a garage floor and around the perimeter of such floor and ramps where the exterior walls are omitted and where the top of the floor is 600 mm or more above an adjacent ground or floor level.

9.8.8.4. Openings in Guards

(1) Except as provided in Sentence (2), openings through any *guard* which is required by Article 9.8.8.1. shall be of a size which will prevent the passage of a spherical object having a diameter of more than 100 mm unless it can be shown that the location and size of openings which exceed this limit do not represent a hazard.

(2) Openings through any *guard* which is required by Article 9.8.8.1. and which is installed in a *building of industrial occupancy* shall be of a size which will prevent the passage of a spherical object having a diameter of more than 200 mm unless it can be shown that the location and size of such openings which exceed this limit do not represent a hazard.

(3) Openings through any *guard* which is not required by Article 9.8.8.1. and which serves a *building* of other than *industrial occupancy*, shall be of a size which

(a) will prevent the passage of a spherical object having a diameter of more than 100 mm, or

(b) will permit the passage of a spherical object having a diameter of more than 200 mm unless it can be shown that the location and size of openings which exceed these limits do not represent a hazard.

9.8.8.5. Design to Prevent Climbing

(1) *Guards* required by Article 9.8.8.1. and serving *buildings of residential occupancy* shall be designed so that no member, attachment or opening located between 100 mm and 900 mm above the floor or walking surface protected by the *guard* will facilitate climbing.

9.8.8.6. Guards for Ramps

(1) *Guards* for ramps including vehicular ramps shall conform to the requirements for *guards* for stairs in Articles 9.8.8.2. and 9.8.8.4.

9.8.8.7. Glass in Guards

(1) Glass in *guards* shall be

(a) safety glass of the laminated or tempered type conforming to CAN/CGSB-12.1-M, "Tempered or Laminated Safety Glass", or

(b) wired glass conforming to CAN/CGSB-12.11-M, "Wired Safety Glass".

9.8.8.8. Construction of Guards

(1) Except as permitted in Sentence 2, *guards* shall conform to the loading criteria in Article 4.1.10.1.

(2) Guards constructed in accordance with the requirements in the Supplementary Guidelines shall be deemed to satisfy the requirements of Sentence 9.1.

9.8.9. Construction

9.8.9.1. Exterior Concrete Stair

(1) Exterior concrete stairs with more than 2 risers and 2 treads shall be

(a) supported on unit masonry or concrete walls or piers not less than 150 mm in cross section, or

(b) cantilevered from the main *foundation* wall.

(2) Stairs described in Sentence (1), when cantilevered from the *foundation* wall, shall be constructed and installed in conformance with Subsection 9.8.10.

(3) The depth below ground level for *foundations* for exterior steps shall conform to the requirements in Section 9.12.

9.8.9.2. Exterior Wood Steps

(1) Exterior wood steps shall not be in direct contact with the ground unless suitably treated with a wood preservative.

9.8.9.3. Wooden Stair Stringers

(1) Wooden stair stringers shall

- (a) have a minimum effective depth of 90 mm and an over-all depth of not less than 235 mm,
- (b) be supported and secured top and bottom,
- (c) be not less than 25 mm actual thickness if supported along their length and 38 mm actual thickness if unsupported along their length, and
- (d) except as permitted in Sentence (2), be spaced not more than 900 mm o.c. for stairs serving not more than one *dwelling unit*, and 600 mm o.c. in other stairs.

(2) For stairs serving not more than one *dwelling unit* where risers support the front portion of the tread, the space between stringers shall be not more than 1 200 mm.

9.8.9.4. Treads

(1) Stair treads lumber, plywood or O-2 grade OSB within *dwelling units* shall be not less than 25 mm actual thickness, except that if open risers are used and the distance between stringers exceeds 750 mm, the treads shall be not less than 38 mm actual thickness.

(2) Stair treads of plywood or O-2 grade OSB shall have their face grain or direction of face orientation at right angles to the stringers.

9.8.9.5. Finish for Treads and Landings

(1) The finish for treads and landings of interior stairs in *dwelling units*, other than stairs to unfinished *basements*, shall consist of hardwood, vertical grain softwood, resilient flooring or other material providing equivalent performance.

(2) Treads and landings of interior and exterior stairs and ramps, other than those within *dwelling units*, shall have a slip-resistant finish or be provided with slip-resistant strips which extend not more than 1 mm above the surface.

9.8.10. Cantilevered Precast Concrete Steps

9.8.10.1. Design

(1) Exterior concrete steps and their anchorage system that are cantilevered from a *foundation wall* shall be designed and installed to support the loads to which they may be subjected.

9.8.10.2. Anchorage

(1) Cantilevered concrete steps in Article 9.8.10.1. shall be anchored to concrete *foundation walls* at least 200 mm thick.

9.8.10.3. Prevention of Damage Due to Frost

(1) Suitable precautions shall be taken during backfilling and grading operations to ensure that subsequent freezing of the *soil* will not cause uplift forces on the underside of cantilevered concrete steps to the extent that the steps or the walls to which they are attached will be damaged.

Section 9.9. Means of Egress

9.9.1. Scope

9.9.1.1. Application

(1) Stairways, handrails and *guards* in a *means of egress* shall conform to the requirements in Section 9.8. as well as to the requirements in this Section.

9.9.1.2. Fire Protection

(1) *Flame-spread ratings*, *fire-resistance ratings* and *fire-protection ratings* shall conform to Section 9.10.

9.9.1.3. Occupant Load

(1) The *occupant load* of a *floor area* or part of a *floor area*, or of a *building* or part of a *building* not having a *floor area*, shall be based on

- (a) 2 persons per sleeping room or sleeping area in a *dwelling unit* or *suite*, and
- (b) for occupancies other than as described in Clause (a), the number of persons
 - (i) for which the area is designed, or
 - (ii) determined from Table 3.1.16.1.

9.9.2. General

9.9.2.1. Egress from Roof Area, Podiums, Terraces, Platforms and Contained Open Spaces

(1) An *access to exit* shall be provided from every roof intended for *occupancy* and from every podium, terrace, platform or contained open space.

(2) Where a roof is intended for an *occupant load* of more than 60 persons, at least 2 separate *means of egress* shall be provided from the roof to stairs designed in conformance with the requirements for *exit* stairs and located remote from each other.

(3) Where a podium, terrace, platform or contained open space is provided, egress requirements shall conform to the appropriate requirements for rooms or *suites* in Article 9.9.7.3.

9.9.2.2. Types of Exits

(1) An *exit* from any *floor area* shall be one of the following used singly or in combination:

- (a) an exterior doorway,
- (b) an exterior passageway,
- (c) an exterior ramp,
- (d) an exterior stairway,
- (e) a fire escape (as described in Subsection 3.4.7.),
- (f) a *horizontal exit*,
- (g) an interior passageway,
- (h) an interior ramp, or
- (i) an interior stairway.

9.9.2.3. Fire Escapes

(1) Fire escapes are permitted to be used as *exits* on existing *buildings* provided they are designed and installed in conformance with Part 3.

(2) Fire escapes shall not be installed on any new *building*.

9.9.2.4. Elevators, Slide Escapes and Windows

(1) Elevators, slide escapes or windows shall not be considered as part of a required *means of egress*.

(2) Except for *floor areas of mercantile occupancy*, casement windows not less than 1 060 mm high, 560 mm wide, with a sill height not more than 900 mm above the inside floor, are permitted to be considered part of a required *means of egress* to provide access to fire escapes, when fire escapes are permitted.

9.9.2.5. Purpose of Exits

(1) An *exit* shall be designed for no purpose other than for exiting except that an *exit* may also serve as an access to a *floor area*.

9.9.2.6. Ancillary Rooms

(1) Ancillary rooms such as storage rooms, washrooms, toilet rooms, laundry rooms and *service rooms* shall not open directly into an *exit*.

9.9.2.7. Horizontal Exits

(1) Where a *horizontal exit* is used, it shall conform to Part 3.

9.9.2.8. Front Edge of Stair Treads

(1) Except for curved stairs the front edge of stair treads in *exits* and *access to exits* shall be at right angles to the direction of *exit* travel.

9.9.2.9. Exterior Exit Stairs that Serve a Hotel

(1) Treads and landings of exterior *exit* stairs that serve a *hotel* shall be designed to be free from ice and snow accumulation.

9.9.3. Dimensions of Means of Egress**9.9.3.1. Application**

(1) This Subsection applies to every *means of egress* except *exits* that serve not more than 1 *dwelling unit* and *access to exits* within *dwelling units*.

9.9.3.2. Exit Width

(1) Except for doors and corridors, the width of every *exit* facility shall be not less than 900 mm.

9.9.3.3. Width of Corridors

(1) The width of every *public corridor*, corridor used by the public, and *exit* corridor shall be not less than 1 100 mm.

9.9.3.4. Headroom Clearance

(1) Except for stairways, doorways and *storage garages*, the minimum headroom clearance in *exits* and *access to exits* shall be 2 100 mm.

(2) The clear height of every *storey* in a *storage garage* shall be not less than 2 000 mm.

9.9.4. Fire Protection of Exits**9.9.4.1. Application**

(1) Except as provided in Article 9.9.4.4., this Subsection applies to the fire protection of all *exits* except *exits* serving not more than one *dwelling unit*.

9.9.4.2. Fire Separation for Exits

(1) Except as provided in Sentence (5) and Article 9.9.8.5., every *exit* other than an *exit* doorway, shall be separated from each adjacent *floor area* or from another *exit* by a *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly above the *floor area*.

(2) Where there is no floor assembly above, the *fire-resistance rating* required in Sentence (1) shall not be less than that required by Subsection 9.10.8. for the floor assembly below, but in no case shall the *fire-resistance rating* be less than 45 min.

(3) A *fire separation* common to 2 *exits* shall be smoke-tight and not be pierced by doorways, duct work, piping or any other opening that may affect the continuity of the separation.

(4) A *fire separation* that separates an *exit* from the remainder of the *building* shall have no openings except those for electrical wiring, *noncombustible* conduit and *noncombustible* piping that serve only the *exit* and for standpipes, sprinkler piping, *exit* doorways and wired glass and glass block permitted in Article 9.9.4.3.

(5) The requirements in Sentence (1) do not apply to an exterior *exit* passageway provided the passageway has at least 50 per cent of its exterior sides open to the outdoors and is served by an *exit* stair at each end of the passageway.

9.9.4.3. Wired Glass or Glass Block

(1) This Article applies to wired glass in doors, and wired glass or glass block in sidelights, where these are installed in *fire separations* between *exit* enclosures and *floor areas*.

(2) Except as provided in Sentence (3)

(a) the combined area of glazing in doors and sidelights shall not exceed 0.8 m².

(3) Where an *exit* enclosure connects with a *floor area* through an enclosed vestibule or corridor separated from the *floor area* by *fire separations* having not less than a 45 min *fire-resistance rating*, the glazed areas described in Sentence (1) need not be limited as required in Sentence (2).

9.9.4.4. Openings Near Unenclosed Exit Stairs and Ramps

(1) Where an unenclosed exterior *exit* stair or ramp provides the only *means of egress* from a *suite*, and is exposed to fire from openings in the exterior walls of another *fire compartment*, the openings in the exterior walls of the *building* shall be protected with wired glass in fixed steel frames or glass block conforming to Articles 9.10.13.5. and 9.10.13.7. when the openings in the exterior walls of the *building* are within 3 m horizontally and less than 10 m below or less than 5 m above the *exit* stair or ramp.

9.9.4.5. Openings in Exterior Walls of Exits

(1) Either openings in the exterior walls of an *exit* or openings in adjacent exterior walls of the *building* the *exit* serves shall be protected with wired glass in steel frames or glass block installed in accordance with Articles 9.10.13.5. and 9.10.13.7., where

- (a) the *exit* enclosure has exterior walls that intersect the exterior walls of the *building* at an angle of less than 135° measured on the outside of the *building*, and
- (b) the openings in the exterior walls of the *building* are within 3 m horizontally and less than 2 000 mm above the openings in the exterior walls of the *exit*.

9.9.4.6. Openings Near Exit Doors

(1) Where an exterior *exit* door in one *fire compartment* is within 3 m horizontally of openings in another *fire compartment*, and the exterior walls of these *fire compartments* intersect at an exterior angle of less than 135°, the openings shall be protected with wired glass in fixed steel frames or glass block conforming to Articles 9.10.13.5. and 9.10.13.7.

9.9.4.7. Stairways in Group D or E Buildings

(1) Notwithstanding the requirements of Sentences 9.9.4.2.(1), 9.9.8.2.(1) and Article 9.10.9.5., where a *suite* of Group D or E *occupancy* is located partly on the *first storey* and partly on the second *storey* or partly on the second *storey* and partly on the third *storey*, stairways serving that *suite* need not be constructed as *exit* stairs provided

- (a) the *building* is not greater than 3 *storeys* in *building height*,
- (b) the *suite* is separated from other *occupancies* by at least a 45 min *fire separation*,
- (c) the area occupied by the *suite* is not greater than 100 m² per *storey*, other than the *exit level storey*,
- (d) the maximum travel distance from any point in the *suite* to an exterior *exit* is not greater than 25 m,
- (e) the floor assemblies have a *fire-resistance rating* of not less than 45 min or are of *noncombustible construction*,
- (f) the *basement* and *first storey* are separated by a *fire separation* having a *fire-resistance rating* of not less than 45 min, and
- (g) a *smoke alarm* is installed on each floor of the *suite*, including the *basement*, in accordance with Subsection 9.10.18.

(2) The requirements of Article 9.10.12.1., for separation of exterior openings, do not apply to an *occupancy* conforming with Sentence (1).

9.9.5. Obstructions and Hazards in Means of Egress

9.9.5.1. Application

(1) This Subsection applies to obstructions and hazards in every *means of egress* except those within a *dwelling unit* or serving not more than 1 *dwelling unit*.

9.9.5.2. Occupancies in Public Corridors

(1) Where a *public corridor* or a corridor used by the public contains an *occupancy*, such *occupancy* shall not reduce the unobstructed width of the corridor to less than the required width of the corridor.

9.9.5.3. Obstructions in Public Corridors

(1) Except as permitted in Sentence (2), obstructions located within 1 980 mm of the floor shall not project horizontally more than 100 mm into *exit* passageways, corridors used by the public or *public corridors* in a manner that would create a hazard for visually impaired persons travelling adjacent to walls.

(2) The horizontal projection of an obstruction in Sentence (1) is permitted to exceed 100 mm where the obstruction extends to less than 680 mm above the floor.

9.9.5.4. Obstructions in Exits

(1) Except as permitted in Subsection 9.9.6. and Article 9.8.7.8., no fixture, turnstile or construction shall project within the required width of an *exit*.

9.9.5.5. Obstructions in Means of Egress

(1) No obstructions such as posts or turnstiles shall be placed so as to restrict the width of a required *means of egress* from a *floor area* or part of a *floor area* to less than 750 mm unless an alternate unobstructed *means of egress* is provided adjacent to and plainly visible from the restricted egress.

(2) Except as provided in Sentence (3), no obstructions, such as counter gates, which do not meet the requirements for *exit* doors, shall be placed in a required *means of egress* from a *floor area* or part of a *floor area* unless an alternate unobstructed *means of egress* is provided adjacent to and plainly visible from the restricted egress.

(3) Obstructions, such as counter gates, which do not satisfy Sentence (2), are permitted to be placed in a required *means of egress* from a part of a *floor area* in *mercantile occupancies* and *business and personal services occupancies*, provided that the part of the *floor area* served by the unobstructed *means of egress* is not generally accessible to the public.

9.9.5.6. Mirrors or Draperies

(1) No mirror shall be placed in or adjacent to any *exit* so as to confuse the direction of *exit*, and no mirror or draperies shall be placed on or over *exit* doors.

9.9.5.7. Fuel-Fired Appliances

(1) Fuel-fired *appliances* shall not be installed in an *exit* or corridor serving as an *access to exit*.

9.9.5.8. Service Rooms

(1) *Service rooms* containing equipment subject to possible explosion, such as *boilers* designed to operate at a pressure in excess of 100 kPa, and certain types of refrigerating and transformer equipment, shall not be located under required *exits*.

9.9.5.9. Ancillary Rooms

(1) Ancillary rooms such as storage rooms, washrooms, toilet rooms, laundry rooms and *service rooms* shall not open directly into an *exit*.

9.9.6. Doors in a Means of Egress

9.9.6.1. Application

(1) This Subsection applies to all doors in a *means of egress* except doors within *dwelling units* and exterior doors serving not more than 1 *dwelling unit* unless otherwise stated herein.

9.9.6.2. Obstruction by Doors

(1) *Exit* doors shall not decrease the required *exit* width by more than 100 mm in *exit* corridors, and not more than 50 mm for other *exit* facilities.

(2) Doors in their swing shall not reduce the width of the path of travel to less than

(a) the required *exit* width in *exit* corridors and passageways, and

(b) 750 mm on *exit* stairs and landings.

9.9.6.3. Headroom Obstructions

(1) No door closer or other device shall be installed in an *exit* in such a manner as to reduce the headroom clearance to less than 1 980 mm.

9.9.6.4. Door Sizes

(1) Every *exit* door or door that opens into or is located within a *public corridor* or other facility that provides *access to exit* from a *suite* shall

(a) be not less than 2 030 mm high,

(b) be not less than 810 mm wide where there is only one door leaf, and

(c) shall have no single leaf less than 610 mm wide in any multiple leaf door.

9.9.6.5. Direction of Door Swing

(1) Except as provided in Sentence 3.3.1.11.(1), every door that opens onto a corridor or other facility that provides *access to exit* from a room or *suite* having an *occupant load* of more than 60 persons, and every door that is located within a corridor that is required to be separated from the remainder of the *floor area* by a *fire separation* shall swing on a vertical axis in the direction of *exit* travel and shall not open onto a step.

(2) Except as permitted in Sentences (4) and (5) and in Sentences 3.4.6.11.(3) and 3.4.6.13.(1), every required *exit* door shall open in the direction of *exit* travel and shall swing on its vertical axis.

(3) Except as provided in Sentences (4) and (5), every required *exit* door shall open in the direction of *exit* travel.

(4) An *exit* door serving not more than one *dwelling unit* is permitted to swing inward.

(5) *Exit* doors serving a *storage garage* serving not more than one *dwelling unit*, or doors serving other accessory buildings where there is no danger to life safety, need not conform to Sentence (2) or (3).

9.9.6.6. Nearness of Doors to Stairs

(1) Except as provided in Sentence (2), the distance between a stair riser and the leading edge of a door during its swing shall be not less than 300 mm.

(2) Where there is a danger of blockage from ice or snow, an *exit* door is permitted to open onto not more than 1 step provided the riser of such step does not exceed 150 mm.

9.9.6.7. Revolving Doors

(1) Revolving doors used as *exits* shall conform to Article 3.4.6.14.

9.9.6.8. Door Opening Mechanism

(1) Except as provided in Sentence 3.4.16.15.(4) for electromagnetic locking systems, *exit* doors and doors to *suites*, including exterior doors to *dwelling units*, shall be openable from the inside without requiring keys, special devices or specialized knowledge of the door opening mechanism.

9.9.6.9. Automatic Locking Prohibited

(1) Except for *hotels* and *motels*, a door opening onto a *public corridor* which provides *access to exit* from *suites* shall be designed not to lock automatically when such doors are equipped with automatic self-closing devices.

9.9.6.10. Effort Required to Open

(1) Every *exit* door shall be designed and installed so that when the latch is released the door will open in the direction of *exit* travel under a force of not more than 90 N applied at the knob or other latch releasing device.

9.9.6.11. Arabic Numerals

(1) Where an *exit* stair serves a *hotel*, arabic numerals indicating the assigned floor number shall be

(a) mounted permanently on each side of the *exit* door to the *exit* stair shaft,

(b) not less than 60 mm high, raised approximately 0.7 mm above the door surface,

(c) located 1 500 mm from the finished floor, and

(d) contrasting in colour with the door surface on which they are applied.

9.9.7. Access to Exits

9.9.7.1. Means of Egress from Suites

(1) Except as permitted in Sentences 9.9.8.2.(2) and 9.9.9.3.(1), each *suite* in a *floor area* occupied by more than one *suite* shall have

(a) an exterior *exit* doorway, or

(b) a doorway to a *public corridor* or to an exterior passageway.

(2) Except as provided in Sentence 9.9.7.2.(1), from the point where a doorway described in Clause (1)(b) enters the *public corridor* or exterior passageway, it shall be possible to go in opposite directions to each of 2 separate *exits*.

9.9.7.2. Dead End Corridors

(1) A dead-end *public corridor* is permitted in an *occupancy* shown in Table 9.9.7.2. where

(a) a dead-end corridor

(i) does not exceed the distance of travel measured from the most remote point of the dead-end to a point where it is possible to go in opposite directions to each of two separate *exits*, and

(ii) is provided with doors equipped with self-closing devices, or

(b) there is a second and separate egress doorway from each room or *suite* not leading into the dead-end corridor.

(2) Dead-end *public corridors* in *residential occupancies* and *business and personal services occupancies* shall contain only *suite* door openings arranged so that not more than 2 such doors have to be passed to reach the nearest *exit*. The area of wired glass in such doors shall not exceed 645 cm².

Table 9.9.7.2.

Dead End Public Corridors

Forming Part of Sentence 9.9.7.2.(1)

| Occupancy | Maximum Length of Dead-End Public Corridor, m | Maximum Occupant Load or Suites Served by Dead-End Public Corridor |
|-----------|---|--|
| Group C | 6 | 4 suites |
| Group D | 6 | 30 |
| Group E | 9 | 30 |
| Group F | 9 | 30 |
| Column 1 | 2 | 3 |

9.9.7.3. Number and Spacing of Egress Doors

(1) Except for *dwelling units*, at least 2 egress doors shall be provided where

- (a) the area of a room or *suite* exceeds 200 m² in a Group D, E, F2 and F3 occupancy, or 150 m² in a Group C occupancy, or
- (b) the distance measured from any point within a room or *suite* to the nearest egress door exceeds 25 m.

(2) Doors in Sentence (1) shall be spaced so that in the event one door is made inaccessible by a fire within such a room or *suite*, the other door will provide safe egress.

9.9.7.4. Independent Access to Exit

(1) Required *access to exit* from *suites* shall not be through any other *dwelling unit*, *service room* or other occupancy.

9.9.7.5. Travel Distance within Rooms and Suites

(1) Except for *dwelling units*, the travel distance from any point within the room or *suite* to the nearest egress door shall not exceed the maximum travel distance in Article 9.9.8.2.

9.9.8. Exits From Floor Areas**9.9.8.1. Measurement of Travel Distance**

(1) Except as provided in Sentences (2) and (3), for the purposes of this Subsection, travel distance means the distance from any point in the *floor area* to an *exit* measured along the path of *exit* travel.

(2) Where a room or *suite* is separated from the remainder of the *floor area* by a *fire separation* having a *fire-resistance rating* of at least 45 min, or in a *sprinklered building*, by a *fire separation* which is not required to have a *fire-resistance rating*, the travel distance is permitted to be measured from an egress door of the room or *suite* to the nearest *exit*.

(3) Where a *public corridor* is not less than 9 m wide and conforms to Clause 3.4.2.5.(1)(d), the travel distance is permitted to be determined in accordance with that Clause.

9.9.8.2. Number of Required Exits

(1) Except as provided in Sentences (2) and (3) and Subsection 9.9.9., not less than 2 *exits* shall be provided from every *floor area*, spaced so that the travel distance to the nearest *exit* is not more than

- (a) 40 m in the case of *business and personal services occupancies*,
- (b) 45 m for all *occupancies* where the *floor area* is *sprinklered*, and
- (c) 30 m for all other *occupancies*.

(2) Except as provided in Subsection 9.9.9., a single *exit* is permitted from each *storey* in *buildings* of 1 and 2 *storeys* in *building height* provided the *floor area* and travel distance requirements conform to those required in Article 9.9.7.3. and the total *occupant load* served by an *exit* facility does not exceed 60 persons.

(3) In *boarding, lodging or rooming houses*

- (a) where sleeping accommodation is provided for not more than 8 persons, a single *exit* is permitted from each *floor area*, or
- (b) where sleeping accommodation is not provided in the *basement*, a single *exit* is permitted from the *basement floor area*.

9.9.8.3. Contribution of Each Exit

(1) Where more than 1 *exit* is required from a *floor area*, each *exit* shall be considered as contributing not more than half the required *exit* width.

9.9.8.4. Location of Exits

(1) Where more than 1 *exit* is required from a *floor area*, not less than 2 *exits* shall be independent of each other and be placed remote from each other along the path of travel between them.

9.9.8.5. Exiting through a Lobby

(1) Not more than one *exit* from a *floor area* is permitted to lead through a lobby.

(2) The floor of the lobby referred to in Sentence (1) shall be not more than 4.5 m above *grade*, and the path of travel through the lobby to the outdoors shall not exceed 15 m.

(3) The lobby referred to in Sentence (1) shall conform in all respects with the requirements for *exits*, except that rooms other than *service rooms*, storage rooms and rooms of *residential* or *industrial* occupancy are permitted to open directly onto such lobby.

(4) Except as required in Sentence (5), an *exit* is permitted to lead through a lobby referred to in Sentence (1) provided the lobby is not located within an *interconnected floor space* other than as described in Sentence 3.2.8.2.(6).

(5) An *exit* which serves a *hotel* is permitted to lead through a lobby referred to in Sentence (1) provided the lobby is not located within an *interconnected floor space*.

(6) Where the lobby referred to in Sentence (1) and adjacent *occupancies* that are permitted to open into the lobby are *sprinklered*, the *fire separation* between such *occupancies* and the lobby need not have a *fire-resistance rating*.

9.9.8.6. Exits for Mezzanines

(1) A *mezzanine* shall be provided with *exits* on the same basis as required for a *floor area* where a *mezzanine* is considered to be a *storey* in Subsection 9.10.4. or is of a size required to have more than one *exit*.

9.9.9. Egress from Dwelling Units**9.9.9.1. Travel Limit to Exits or Egress Doors**

(1) Except as provided in Sentences (2) and (3), every *dwelling unit* containing more than 1 *storey* shall have *exits* or egress doors located so that it shall not be necessary to travel up or down more than 1 *storey* to reach a level served by

- (a) an egress door to a *public corridor*, enclosed *exit* stair or exterior passageway, or
- (b) an *exit* doorway not more than 1 500 mm above adjacent ground level.

(2) Where a *dwelling unit* is not located above or below another *suite*, the travel limit from a floor level in the *dwelling unit* to an *exit* or egress door is permitted to exceed 1 *storey* where that floor level is served by an openable window or door

- (a) providing an unobstructed opening of not less than 1 000 mm in height and 550 mm in width, and
- (b) located so that the sill is not more than
 - (i) 1 000 mm above the floor, and
 - (ii) 7 m above adjacent ground level.

(3) The travel limit from a floor level in a *dwelling unit* to an *exit* or egress door is permitted to exceed 1 *storey* where that floor level has direct access to a balcony.

9.9.9.2. Two Separate Exits

(1) Except as provided in Sentence 9.9.7.2.(1), where an egress door from a *dwelling unit* opens onto a *public corridor* or exterior passageway it shall be possible from the location where the egress door opens onto the corridor or exterior passageway to go in opposite directions to 2 separate *exits* unless the *dwelling unit* has a second and separate *means of egress*.

9.9.9.3. Shared Egress Facilities

(1) A *dwelling unit* shall be provided with a second and separate *means of egress* where an egress door from the *dwelling unit* opens onto

- (a) an *exit* stairway serving more than 1 *suite*,
- (b) a *public corridor* serving more than one *suite* served by a single *exit* stairway,
- (c) an exterior passageway more than 1 500 mm above adjacent ground level, serving more than one *suite* and served by a single *exit* stairway, or
- (d) a balcony more than 1 500 mm above adjacent ground level, serving more than one *suite* and served by a single *exit* stairway.

9.9.10. Signage**9.9.10.1. Application**

(1) This Subsection applies to all *exits* except those serving not more than 1 *dwelling unit*.

9.9.10.2. Visibility of Exits

(1) *Exits* shall be located so as to be clearly visible or their locations shall be clearly indicated.

9.9.10.3. Required Exit Signs

(1) Except as required in Sentence (2), every *exit* door other than a main entrance to a room or *building* shall have an *exit* sign over or adjacent to it when the *exit* serves

- (a) a three *storey* building,
- (b) a *building* with an *occupant load* greater than 150, or
- (c) a room or *floor area* that has a fire escape as part of a required *means of egress*.

(2) Except for *suite* doors opening directly to the exterior, every *exit* serving a *hotel* shall have an *exit* sign placed over or adjacent to it.

9.9.10.4. Exit Direction Signs

(1) *Exit* direction signs shall be placed in corridors and passageways where necessary to indicate the direction of *exit* travel.

9.9.10.5. Visibility of Exit Signs

(1) *Exit* signs shall be installed so as to be visible from the *exit* approach.

9.9.10.6. Lettering

(1) *Exit* signs shall have the word **EXIT** or the words **EXIT/SORTIE** in red letters on a contrasting background or a red background with contrasting letters when the sign is internally lighted, and white letters on a red background or red letters on a white background when the sign is externally lighted.

(2) Lettering referred to in Sentence (1) shall be made with not less than 19 mm wide strokes and be not less than 150 mm high when the sign is externally lighted, and at least 114 mm high when the sign is internally lighted.

(3) Where an *exit* sign having the word **EXIT** is installed in conformance with Sentence (1), an additional sign having the word **SORTIE** is permitted to be installed.

9.9.10.7. Illumination

(1) Illumination of *exit* signs required in Article 9.9.10.3. shall conform to Sentences 9.9.11.3.(2) and (3).

(2) Where illumination of *exit* signs required in Article 9.9.10.3. is provided by an electrical circuit, that circuit shall serve no equipment other than emergency equipment.

9.9.10.8. Exits Continuing to a Basement

(1) In *buildings* 3 *storeys* in *building height* any part of an *exit* ramp or stair that continues down to a *basement* past an exterior *exit* door shall be clearly marked to indicate that it does not lead to an *exit*, where the portion below ground level may be mistaken as the direction of *exit* travel.

9.9.10.9. Floor Numbering

(1) Arabic numerals indicating the assigned floor number shall be

- (a) mounted permanently on the stair side of the wall at the latch side of doors to *exit* stair shafts,

- (b) not less than 60 mm high, raised approximately 0.7 mm above the surface,
- (c) located 1 500 mm from the finished floor and not more than 300 mm from the door, and
- (d) contrasting in colour with the surface on which they are applied.

9.9.11. Lighting

9.9.11.1. Application

(1) This Subsection applies to the lighting of all *exits* except those serving not more than 1 *dwelling unit*.

9.9.11.2. Required Lighting in Egress Facilities

(1) Every *exit*, *public corridor* or corridor providing *access to exit* for the public shall be equipped to provide illumination to an average level of not less than 50 lx at floor or tread level and at all points such as angles and intersections at changes of level where there are stairs or ramps.

9.9.11.3. Emergency Lighting

(1) Emergency lighting shall be provided in

- (a) *exits*,
- (b) principal routes providing *access to exit* in an open *floor area*,
- (c) corridors used by the public,
- (d) underground *walkways*, and
- (e) *public corridors*.

(2) Emergency lighting required in Sentence (1) shall be provided from a source of energy separate from the electrical supply for the *building*.

(3) Lighting required in Sentence (1) shall be designed to be automatically actuated for a period of not less than 30 min when the electric lighting in the affected area is interrupted.

(4) Illumination from lighting required in Sentence (1) shall be provided to average levels of not less than 10 lx at floor or tread level.

(5) Where incandescent lighting is provided, lighting equal to 1 W/m² of *floor area* shall be considered to meet the requirement in Sentence (4).

(6) Where self-contained emergency lighting units are used, they shall conform to CSA C22.2 No. 141-M, "Unit Equipment for Emergency Lighting".

Section 9.10. Fire Protection

9.10.1. General

9.10.1.1. Support of Noncombustible Construction

(1) Where an assembly is required to be of *noncombustible construction* and to have a *fire-resistance rating*, it shall be supported by *noncombustible construction*.

9.10.1.2. Sloped Roofs

(1) For the purposes of this Section, roofs with slopes of 60° or more to the horizontal and which are adjacent to a room or space intended for *occupancy* shall be considered as a wall.

9.10.1.3. Items Under Part 3 Jurisdiction

(1) Tents, *air-supported structures*, transformer vaults, *walkways*, elevators and escalators shall conform to Part 3.

(2) Where rooms or spaces are intended for an *assembly occupancy*, such rooms or spaces shall conform to Part 3.

(3) *Basements* containing more than 1 *storey* or exceeding 600 m² in area shall conform to Part 3.

(4) Where rooms or spaces are intended for the storage, manufacture or use of hazardous or explosive material, such rooms or spaces shall conform to Part 3.

(5) Reserved

(6) Openings through floors that are not protected by shafts or *closures* shall be protected in conformance with Subsection 3.2.8.

(7) Chutes and shafts shall conform to Subsection 3.6.3. except where they are contained entirely within a *dwelling unit*.

(8) Where sprinkler, standpipe and hose systems are installed, they shall be installed in conformance with Part 3.

9.10.1.4. Items Under Part 6 Jurisdiction

(1) In kitchens containing commercial cooking equipment used in processes producing grease-laden vapours, the equipment shall be designed and installed in conformance with Part 6.

(2) Where fuel-fired *appliances* are installed on a roof, such *appliances* shall be installed in conformance with Part 6.

9.10.2. Occupancy Classification

9.10.2.1. Occupancy Classification

(1) Except as provided in Article 9.10.2.2., every *building* or part thereof shall be classified according to its *major occupancy* as belonging to one of the groups or divisions described in Table 9.10.2.1.

Table 9.10.2.1.

Occupancy Classifications

Forming Part of Sentence 9.10.2.1.(1)

| Group | Division | Description of <i>Major Occupancies</i> |
|----------|----------|---|
| C | — | <i>Residential occupancy</i> |
| C | — | <i>Business and personal services occupancies</i> |
| E | — | <i>Mercantile occupancies</i> |
| F | 2 | <i>Medium hazard industrial occupancies</i> |
| F | 3 | <i>Low hazard industrial occupancies</i> (Does not include <i>storage garages</i> serving individual <i>dwelling units</i>) |
| Column 1 | 2 | 3 |

9.10.2.2. Custodial and Convalescent Homes

(1) Children's custodial homes and convalescent homes for ambulatory occupants living as a single housekeeping unit in a *dwelling unit* with sleeping accommodation for not more than 10 persons is permitted to be classified as *residential occupancies* (Group C).

9.10.2.3. Major Occupancies above Other Major Occupancies

(1) Except as permitted in Article 9.10.2.4., in any *building* containing more than 1 *major occupancy* in which one *major occupancy* is located entirely above another, the requirements of Article 9.10.8.1. for each portion of the *building* containing a *major occupancy* shall be applied to that portion as if the entire *building* was of that *major occupancy*.

9.10.2.4. Buildings Containing More Than One Major Occupancy

(1) In a *building* containing more than 1 *major occupancy*, where the aggregate area of all *major occupancies* in a particular group or division does not exceed 10% of the *floor area* on the *storey* on which they are located, they need not be considered as *major occupancies* for the purposes of Articles 9.10.8.1. and 9.10.2.3. provided they are not classified as Group F, Division 2 *occupancies*.

9.10.2.4. Restaurants

(1) A restaurant is permitted to be classified as a Group E *major occupancy* provided such restaurant is designed to accommodate not more than 30 persons consuming food or drink.

9.10.3. Ratings**9.10.3.1. Fire-Resistance and Fire-Protection Ratings**

(1) Where a *fire-resistance rating* or a *fire-protection rating* is required in this Section for an element of a *building*, such rating shall be determined in conformance with the test methods described in Part 3, or the Supplementary Guidelines.

9.10.3.2. Flame-Spread Rating

(1) Where a *flame-spread rating* is required in this Section for an element of a *building*, such rating shall be determined in accordance with the test methods described in Part 3, or in accordance with the Supplementary Guidelines.

(2) Unless the *flame-spread rating* is referred to herein as a "surface *flame-spread rating*", it shall apply to any surface of the element being considered that would be exposed by cutting through it as well as to the exposed surface of the element.

9.10.3.3. Fire Exposure

(1) Floor, roof and ceiling assemblies shall be rated for exposure to fire on the underside.

(2) Exterior walls shall be rated for exposure to fire from inside the *building*, except that such walls need not comply with the temperature rise limitations required by the standard tests referred to in Article 9.10.3.1. if such walls have a *limiting distance* of not less than 1 200 mm, and due allowance is made for the effects of heat radiation in accordance with the requirements in Part 3.

(3) *Firewalls* and Interior vertical *fire separations* required to have *fire-resistance ratings* shall be rated for exposure to fire on each side.

9.10.3.4. Suspended Membrane Ceiling

(1) Where a ceiling construction has a suspended membrane ceiling with lay-in panels or tiles which contribute to the required *fire-resistance rating*, hold down clips or other means shall be provided to prevent the lifting of such panels or tiles in the event of a fire.

9.10.4. Building Size Determination**9.10.4.1. Mezzanines not Considered as Storeys**

(1) *Mezzanines* shall not be considered as *storeys* for the purpose of determining *building height* where the aggregate area of *mezzanine* floors does not exceed 10% of

(a) the *suite* in which it is located, where there is more than one *suite* in the *storey*, or

(b) the *storey* in which it is located, in all other cases.

(2) *Mezzanines* shall not be considered as *storeys* for the purpose of determining *building height* where they occupy an aggregate area not exceeding 40% of the area of the room or the *storey* in which they are located provided the space above the *mezzanine* floor has no visual obstructions more than 1 070 mm above such floors.

9.10.4.2. More Than One Level of Mezzanine

(1) Where more than 1 level of *mezzanine* is provided in a *storey*, each level additional to the first shall be considered as a *storey*.

9.10.4.3. Basement Storage Garage

(1) Where a *basement* is used primarily as a *storage garage*, the *basement* is permitted to be considered as a separate *building* for the purposes of this Section provided the floor above the *basement* and the exterior walls of the *basement* above the adjoining ground level are constructed as *fire separations* of masonry or concrete having a *fire-resistance rating* of not less than 2 h.

9.10.4.4. Roof-Top Enclosures

(1) Roof-top enclosures provided for elevator machinery, stairways and *service rooms*, used for no purpose other than for service to the *building*, shall not be considered as a *storey* in calculating the *building height*.

9.10.5. Permitted Openings in Wall and Ceiling Assemblies**9.10.5.1. Permitted Openings in Wall and Ceiling Membranes**

(1) Except as permitted in Sentences (2) and (4), a membrane forming part of an assembly required to have a *fire-resistance rating* shall not be pierced by openings into the assembly unless the assembly has been tested and rated for such openings.

(2) A wall or ceiling membrane forming part of an assembly required to have a *fire-resistance rating* is permitted to be pierced by openings for electrical and similar service outlet boxes provided such outlet boxes are tightly fitted.

(3) Where boxes referred to in Sentence (2) are located on both sides of walls required to provide a *fire-resistance rating*, they shall be offset where necessary to maintain the integrity of the *fire separation*.

(4) A membrane ceiling forming part of an assembly assigned a *fire-resistance rating* on the basis of Table A-9.10.3.1.B. in the Supplementary Guidelines, is permitted to be pierced by openings leading to ducts within the ceiling space provided the ducts, the amount of openings and their protection conform to the requirements in the Supplementary Guidelines.

9.10.6. Construction Types**9.10.6.1. Combustible Elements in Noncombustible Construction**

(1) Where a *building* or part of a *building* is required to be of *noncombustible construction*, *combustible* elements shall be limited in conformance with the requirements in Subsection 3.1.5.

9.10.6.2. Heavy Timber Construction

(1) *Heavy timber construction* shall be considered to have 45 min *fire-resistance rating* when it is constructed in accordance with the requirements for *heavy timber construction* in Article 3.1.4.6.

9.10.7. Steel Members**9.10.7.1. Protection of Structural Steel Members**

(1) Except as permitted in Article 3.2.2.3., structural steel members used in construction required to have a *fire-resistance rating* shall be protected to provide the required *fire-resistance rating*.

9.10.8. Fire Resistance in Relation to Occupancy and Height**9.10.8.1. Fire Resistance Ratings for Floors and Roofs**

(1) Except as otherwise provided in this Subsection, the *fire-resistance ratings* of floors and roofs shall conform to Table 9.10.8.1.

Table 9.10.8.1.

Fire Resistance Ratings for Structural Members and Assemblies

Forming Part of Sentence 9.10.8.1.(1)

| Major Occupancy | Maximum Building Height, Storeys | Minimum Fire Resistance Rating by Building Element, min | | |
|-----------------------|----------------------------------|---|------------------|-------|
| | | Floors Except Floors over Crawl Spaces | Mezzanine Floors | Roofs |
| Residential (Group C) | 3 | 45 | 45 | — |
| All other occupancies | 2 | 45 | — | — |
| | 3 | 45 | 45 | 45 |
| Column 1 | 2 | 3 | 4 | 5 |

9.10.8.2. Fire-Resistance Ratings in Sprinklered Buildings

(1) The requirements in Table 9.10.8.1. for roof assemblies to have a *fire-resistance rating* are permitted to be waived in *sprinklered buildings* where

- (a) the sprinkler system is electrically supervised in conformance with Sentence 3.2.4.9.(2), and
- (b) the operation of the sprinkler system will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.7.(4).

9.10.8.3. Fire-Resistance Ratings for Walls, Columns and Arches

(1) Except as otherwise provided in this Subsection, all *loadbearing* walls, columns and arches in the *storey* immediately below a floor or roof assembly shall have a *fire-resistance rating* of not less than that required for the supported floor or roof assembly.

9.10.8.4. Service Rooms

(1) Construction supporting a *service room* need not conform to Article 9.10.8.3.

9.10.8.5. Mezzanines

(1) Mezzanines required to be counted as *storeys* in Articles 9.10.4.1. and 9.10.4.2. shall be constructed in conformance with the requirements for "Floors Except Floors over Crawl Spaces" in Table 9.10.8.1.

9.10.8.6. Roofs Supporting an Occupancy

(1) Where a portion of a roof supports an *occupancy*, that portion shall be constructed as a *fire separation* having a *fire-resistance rating* conforming to the rating for "Floors Except Floors over Crawl Spaces" in Table 9.10.8.1.

9.10.8.7. Floors of Exterior Passageways

(1) Except as provided in Sentences (2) and (3), the floor assembly of every exterior passageway used as part of a *means of egress* shall have a *fire-resistance rating* of not less than 45 min or be of *noncombustible construction*.

(2) No *fire-resistance rating* is required for floors of exterior passageways serving *buildings* of Group D, E or F *major occupancy* that are not more than 2 *storeys* in *building height*.

(3) No *fire-resistance rating* is required for floors of exterior passageways serving a single *dwelling unit* where no *suite* is located above or below the *dwelling unit*.

9.10.8.8. Crawl Spaces

(1) Where a crawl space exceeds 1 800 mm in height or is used for any *occupancy* or as a *plenum* in *combustible construction* or for the passage of *flue pipes*, it shall be considered as a *basement* in applying the requirements in Article 9.10.8.1.

9.10.8.9. Application to Houses

(1) Table 9.10.8.1. does not apply to a *dwelling unit* which has no other *dwelling unit* above or below it or to a *dwelling unit* which is not above or below another *major occupancy*.

9.10.8.10. Part 3 as an Alternative

(1) The *fire-resistance ratings* of floors, roofs, *loadbearing* walls, columns and arches need not conform to this Subsection if such assemblies conform in all respects to the appropriate requirements in Section 3.2.

9.10.9. Fire Separations Between Rooms and Spaces Within Buildings**9.10.9.1. Application**

(1) This Subsection applies to *fire separations* required between rooms and spaces in *buildings* except between rooms and spaces within a *dwelling unit*.

9.10.9.2. Continuous Barrier

(1) Except as permitted in Article 9.10.9.3., a wall or floor assembly required to be a *fire separation* shall be constructed as a continuous barrier against the spread of fire.

9.10.9.3. Openings to be Protected With Closures

(1) Except as permitted in Articles 9.10.9.5., 9.10.9.6. and 9.10.9.7., openings in required *fire separations* shall be protected with *closures* conforming to Subsection 9.10.13.

9.10.9.4. Floor Assemblies

(1) Except as permitted in Sentences (2) to (4), all floor assemblies shall be constructed as *fire separations*.

(2) Floor assemblies contained within *dwelling units* need not be constructed as *fire separations*.

(3) Floor assemblies for which no *fire-resistance rating* is required by Subsection 9.10.8. and floors of *mezzanines* not required to be counted as *storeys* in Articles 9.10.4.1. and 9.10.4.2. need not be constructed as *fire separations*.

(4) Where a crawl space is not required by Article 9.10.8.8. to be constructed as a *basement*, the floor above it need not be constructed as a *fire separation*.

9.10.9.5. Interconnected Floor Spaces

(1) Except as permitted in Article 9.9.4.7., *interconnected floor spaces* shall conform to the requirements of Subsection 3.2.8.

9.10.9.6. Service Equipment Penetrating a Fire Separation

(1) Piping, tubing, ducts, *chimneys*, wiring, conduit, electrical outlet boxes and other similar service equipment that penetrate a required *fire separation* shall be tightly fitted or fire stopped to maintain the integrity of the separation.

(2) Except as provided in Sentences (3) to (9) and Article 9.10.9.7., pipes, ducts, electrical outlet boxes, totally enclosed raceways or other similar service equipment that partly or wholly penetrate an assembly required to have a *fire-resistance rating* shall be *noncombustible* unless the assembly has been tested incorporating such equipment.

(3) Electrical wires or other similar wiring enclosed in *non-combustible* totally enclosed raceways are permitted to partly or wholly penetrate an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required in Sentence (2).

(4) Electrical wires or cables, single or grouped, with *combustible* insulation or jacketing that is not totally enclosed in raceways of *noncombustible* material, are permitted to partly or wholly penetrate an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required in Sentence (2) provided the overall diameter of the wiring is not more than 25 mm.

(5) *Combustible* totally enclosed raceways which are embedded in a concrete floor slab are permitted in an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required in Sentence (2), where the concrete provides at least 50 mm of cover between the raceway and the bottom of slab.

(6) *Combustible* outlet boxes are permitted in an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required in Sentence (2) provided the opening through the membrane into the box does not exceed 160 cm².

(7) *Combustible* water distribution piping that has an outside diameter not more than 30 mm is permitted to partly or wholly penetrate a vertical *fire separation* that is required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required in Sentence (2) provided the piping is sealed in conformance with Article 3.1.9.1.

(8) *Combustible* sprinkler piping is permitted to penetrate a *fire separation* provided the *fire compartments* on each side of the *fire separation* are *sprinklered*.

(9) *Combustible* piping for central vacuum systems is permitted to penetrate a *fire separation* provided the installation conforms to the requirements that apply to *combustible* piping in Sentences 9.10.9.7.(2) to (6).

9.10.9.7. Combustible Piping

(1) Except as permitted in Sentences (2) to (6), *combustible* piping shall not be used where any part of a piping system partly or wholly penetrates a *fire separation* required to have a *fire-resistance rating* or penetrates a membrane that contributes to the required *fire-resistance rating* of an assembly.

(2) *Combustible* piping not located in a vertical shaft is permitted to penetrate a *fire separation* required to have a *fire-resistance rating* or a membrane that forms part of an assembly required to have a *fire-resistance rating* provided the piping is sealed at the penetration by a firestop system that has an F rating not less than the *fire-resistance rating* required for the *fire separation*.

(3) The rating referred to in Sentence (2) shall be based on CAN4-S115, "Standard Method of Fire Tests for Firestop Systems" with a pressure differential of 50 Pa between the exposed and unexposed sides, with the higher pressure on the exposed side.

(4) *Combustible* drain piping is permitted to penetrate a horizontal *fire separation* or a membrane that contributes to the required *fire-resistance rating* of a horizontal *fire separation* provided it leads directly from a *noncombustible* water closet through a concrete floor slab.

(5) *Combustible* piping is permitted

(a) on one side of a vertical *fire separation* provided it is not located in a vertical shaft, and

(b) to penetrate a vertical or horizontal *fire separation* when the *fire compartment* on each side of the *fire separation* is *sprinklered*.

(6) In buildings containing 2 *dwelling units* only, *combustible* piping is permitted on one side of a horizontal *fire separation*.

9.10.9.8. Collapse of Combustible Construction

(1) *Combustible construction* that abuts on or is supported by a *noncombustible fire separation* shall be constructed so that its collapse under fire conditions will not cause collapse of the *fire separation*.

9.10.9.9. Reduction in Thickness of Fire Separation by Beams and Joists

(1) Beams and joists framed into a masonry or concrete *fire separation* shall not reduce the thickness of the *fire separation* to less than

(i) 100 mm of solid masonry or solid concrete, or

(ii) the equivalent thickness of the masonry or concrete determined in accordance with the Supplementary Guidelines.

9.10.9.10. Concealed Spaces above Fire Separations

(1) Except as provided in Sentence (2), a horizontal *service space* or other concealed space located above a required vertical *fire separation* shall be divided at the *fire separation* by an equivalent *fire separation* within the space.

(2) Where a horizontal *service space* or other concealed space is located above a required vertical *fire separation* other than a vertical shaft, such space need not be divided as required in Sentence (1) provided the construction between such space and the space below is

constructed as a *fire separation* having a *fire-resistance rating* not less than that required for the vertical *fire separation*, except that where the vertical *fire separation* is not required to have a *fire-resistance rating* greater than 45 min, the *fire-resistance rating* of the ceiling is permitted to be reduced to 30 min.

9.10.9.11. Separation of Residential Occupancies

(1) Except as provided in Sentences (2) and (4), *residential occupancies* shall be separated from all other *major occupancies* by a *fire separation* having a *fire-resistance rating* of not less than 1 h.

(2) Except as provided in Sentence (3), a *major occupancy* classified as a *residential occupancy*, including *live/work units*, shall be separated from other *major occupancies* classified as *mercantile* or *medium hazard industrial occupancies* by a *fire separation* having a *fire-resistance rating* of not less than 2 h.

(3) Where not more than 2 *dwelling units* or *live/work units* are located in a *building* containing a *mercantile occupancy*, such *mercantile occupancy* shall be separated from the *dwelling units* or *live/work units* by a *fire separation* having not less than 1 h *fire-resistance rating*.

(4) The requirement for *fire separations* between *major occupancies* in Sentence (1) is waived for the *occupancies* allowed within *live/work units*.

9.10.9.12. Residential Suites, Live/Work Units and Industrial Buildings

(1) Except as provided in Sentence (2), not more than 1 *suite* of *residential occupancy* shall be contained within a *building* classified as a Group F, Division 2 *major occupancy*.

(2) Except where a Group F Division 2 *major occupancy* is directly related to *live/work units*, not more than one *suite* of *residential occupancy* shall be contained within a *building* classified as Group F, Division 2 *major occupancy*.

9.10.9.13. Separation of Suites

(1) Except as required in Article 9.10.9.14., and as permitted by Sentence (2), each *suite* in other than *business and personal services occupancies* shall be separated from adjoining *suites* by a *fire separation* having a *fire-resistance rating* of not less than 45 min.

(2) In *sprinklered buildings*, *suites* of *business and personal services occupancy* and *mercantile occupancy* that are served by *public corridors* conforming with Sentence 3.3.1.4.(4) are not required to be separated from each other by *fire separations*.

9.10.9.14. Separation of Residential Suites

(1) Except as provided in Sentences (2) and (3) and Article 9.10.20.2., *suites* in *residential occupancies* shall be separated from adjacent rooms and *suites* by a *fire separation* having a *fire-resistance rating* of not less than 45 min.

(2) Sleeping rooms in *boarding, lodging or rooming houses* where sleeping accommodation is provided for not more than 8 boarders or lodgers shall be separated from the remainder of the *floor area* by a *fire separation* having a *fire-resistance rating* of not less than 30 min where the sleeping rooms form part of the proprietor's residence and do not contain cooking facilities.

(3) *Dwelling units* that contain 2 or more *storeys* including *basements* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 1 h.

9.10.9.15. Separation of Public Corridors

(1) Except as provided in Sentences (2) and (3), *public corridors* shall be separated from the remainder of the *building* by a *fire separation* having not less than a 45 min *fire-resistance rating*.

(2) In other than *residential occupancies*, no *fire-resistance rating* is required for *fire separations* between a *public corridor* and the remainder of the *building* if

- (a) the *floor area* is *sprinklered*,
- (b) the *sprinkler system* is electrically supervised in conformance with Sentence 3.2.4.9.(2), and
- (c) the operation of the *sprinkler system* will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.7.(4).

(3) In other than *residential occupancies*, no *fire separation* is required between a *public corridor* and the remainder of the *building* if

- (a) the *floor area* is *sprinklered*,
- (b) the *sprinkler system* is electrically supervised in conformance with 3.2.4.9.(2),
- (c) the operation of the *sprinkler system* will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.7.(4), and
- (d) the corridor exceeds 5 m in width.

9.10.9.16. Separation of Storage Garages

(1) Except as provided in Sentences (2) and (3), a *storage garage* shall be separated from other *occupancies* by a *fire separation* having not less than a 1.5 h *fire-resistance rating*.

(2) Except as permitted in Sentence (3), *storage garages* containing 5 motor vehicles or fewer shall be separated from other *occupancies* by a *fire separation* of not less than 1 h.

(3) Where a *storage garage* serves only the *dwelling unit* to which it is attached or built in, it shall be considered as part of that *dwelling unit* and the *fire separation* required in Sentence (2) need not be provided between the garage and the *dwelling unit* where

- (a) the construction between the garage and the *dwelling unit* provides an effective barrier to gas and exhaust fumes, and
- (b) every door between the garage and *dwelling unit* conforms to Article 9.10.13.15.

9.10.9.17. Separation of Repair Garages

(1) Except as provided in Sentence (2), a *repair garage* shall be separated from other *occupancies* by a *fire separation* having a *fire-resistance rating* of not less than 2 h.

(2) Ancillary spaces directly serving a *repair garage*, including waiting rooms, reception rooms, tool and parts storage areas and supervisory office space need not be separated from the *repair garage* but shall be separated from other *occupancies* as required in Sentence (1).

9.10.9.18. Exhaust Ducts Serving More Than One Fire Compartment

(1) Where a *vertical service space* contains an *exhaust duct* that serves more than one *fire compartment*, the duct shall have a fan located

at or near the exhaust outlet to ensure that the duct is under negative pressure.

(2) Individual *fire compartments* referred to in Sentence (1) shall not have fans that exhaust directly into the duct in the *vertical service space*.

9.10.9.19. Central Vacuum Systems

(1) A central vacuum system shall serve not more than one *suite*.

9.10.10. Service Rooms

9.10.10.1. Application

(1) This Subsection applies to *service rooms* in all *buildings* except rooms located within a *dwelling unit*.

9.10.10.2. Service Room Floors

(1) The *fire-resistance rating* requirements in this Subsection do not apply to the floor assembly immediately below a *service room*.

9.10.10.3. Separation of Service Rooms

(1) Except as required in Sentence (2) and Articles 9.10.10.5. and 9.10.10.6., *service rooms* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 1 h when the *floor area* containing the *service room* is not *sprinklered*.

(2) Where a room contains a limited quantity of service equipment and the service equipment does not constitute a fire hazard, the requirements in Sentence (1) shall not apply.

9.10.10.4. Appliances and Equipment to be Located in a Service Room

(1) Except as provided in Sentence (2) and Article 9.10.10.5., *fuel-fired appliances* other than fireplaces shall be located in a *service room* separated from the remainder of the *building* by a *fire separation* having not less than a 1 h *fire-resistance rating*.

(2) Except as required in the *appliance* installation standards referenced in Sentences 6.2.1.5.(1), 9.33.5.2.(1) and 9.33.5.3.(1), *fuel-fired space-heating appliances*, *space-cooling appliances* and *service water heaters* need not be separated from the remainder of the *building* as required in Sentence (1) where the equipment serves

(a) not more than one room or *suite*, or

(b) a *building* with a *building area* of not more than 400 m² and a *building height* of not more than 2 *storeys*.

9.10.10.5. Incinerators

(1) *Service rooms* containing incinerators shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 2 h.

(2) The design, construction, installation and alteration of each indoor incinerator shall conform to NFPA 82, "Incinerators, Waste and Linen Handling Systems and Equipment".

(3) Every incinerator shall be connected to a *chimney flue* conforming to the requirements in Section 9.21 and serving no other *appliance*.

(4) An incinerator shall not be located in a room with other *fuel-fired appliances*.

9.10.10.6. Storage Rooms

(1) Rooms for the temporary storage of *combustible refuse* in all *occupancies* or for public storage in *residential occupancies* shall be separated from the remainder of the *building* by a *fire separation* having not less than a 1 h *fire-resistance rating*, except that a 45 min *fire separation* is permitted where the *fire-resistance rating* of the floor assembly is not required to exceed 45 min, or where such rooms are *sprinklered*.

9.10.11. Firewalls

9.10.11.1. Required Firewalls

(1) Except as provided in Articles 9.10.11.2. and 9.10.11.4., a *party wall* on a property line shall be constructed as a *firewall*.

9.10.11.2. Firewalls Not Required

(1) In a *building* of *residential occupancy* in which there is no *dwelling unit* above another *dwelling unit*, a *party wall* on a property line between *dwelling units* need not be constructed as a *firewall* provided it is constructed as a *fire separation* having not less than a 1 h *fire-resistance rating*.

(2) The wall described in Sentence (1) shall provide continuous protection from the top of the footings to the underside of the roof deck.

(3) Any space between the top of the wall described in Sentence (1) and the roof deck shall be tightly filled with mineral wool or *noncombustible material*.

9.10.11.3. Construction of Firewalls

(1) Where *firewalls* are used, the requirements in Part 3 shall apply.

9.10.11.4. Firewalls in Detached Garages

(1) Where a garage is detached from the *dwelling unit* but attached to another garage on the adjacent property, the *party wall* so formed shall be constructed as a *fire separation* having a *fire-resistance rating* of not less than 45 min.

9.10.12. Prevention of Fire Spread at Exterior Walls and between Storeys

9.10.12.1. Separation of Exterior Openings

(1) In *buildings* of *mercantile* or *medium hazard industrial occupancy*, exterior openings in one *storey* shall be separated from openings in an adjacent *storey* by

(a) a wall not less than 1 000 mm in vertical dimension, or

(b) a canopy or balcony not less than 1 000 mm in width.

(2) The wall, canopy or balcony described in Sentence (1) shall have a *fire-resistance rating* not less than that required for the floor assembly separating the *storeys*, except that the rating need not exceed 1 h.

9.10.12.2. Termination of Floors or Mezzanines

(1) Except as provided in Sentence (2) and in Articles 9.10.1.3. and 9.10.9.5., the portions of a *floor area* or *mezzanine* that do not terminate at an exterior wall, a *firewall* or a vertical shaft, shall terminate at a vertical *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly that terminates at the separation.

(2) A *mezzanine* need not terminate at a vertical fire separation where the *mezzanine* is not required to be considered as a *storey* in Articles 9.10.4.1. and 9.10.4.2.

9.10.12.3. Location of Skylights

(1) Where a wall in a *building* is exposed to a fire hazard from an adjoining roof of a separate unsprinklered *fire compartment* in the same *building*, the roof shall contain no skylights within a horizontal distance of 5 m of the windows in the exposed wall.

9.10.12.4. Exterior Walls Meeting at an Angle

(1) Except as provided in Article 9.9.4.5., where exterior walls of a *building* meet at an external angle of less than 135°, the horizontal distance from an opening in one wall to an opening in the other wall shall be not less than 1 200 mm where the openings are in different *fire compartments*.

(2) The exterior wall of each *fire compartment* referred to in Sentence (1) within the 1 200 mm distance, shall have a *fire-resistance rating* not less than that required for the interior vertical *fire separation* between the compartment and the remainder of the *building*.

9.10.12.5. Protection of Soffits

(1) Except as provided in Sentences (2) and (3), where a common *attic or roof space* spans more than 2 *suites* of *residential occupancy*, and projects beyond the exterior wall of the *building*, the portion of any soffit or other surface enclosing the projection which is less than 2 500 mm vertically above a window or door and less than 1 200 mm from either side of the window or door, shall have no *unprotected openings* and shall be protected by

- (a) *noncombustible* material having a minimum thickness of 0.38 mm and a melting point not below 650°C,
- (b) not less than 12.7 mm thick gypsum soffit board or gypsum wallboard installed according to CSA A82.31-M, "Gypsum Board Application",
- (c) not less than 11 mm thick plywood,
- (d) not less than 12.5 mm thick OSB or waferboard, or
- (e) not less than 11 mm thick lumber.

(2) Where the soffit or other surface described in Sentence (1) is completely separated from the remainder of the *attic or roof space* by firestopping, the requirements in Sentence (1) do not apply.

(3) Where all *suites* spanned by a common *attic or roof space* are *sprinklered*, the requirements in Sentence (1) do not apply provided that all rooms, including closets and bathrooms, having openings in the wall beneath the soffit are *sprinklered*, notwithstanding any exceptions in the sprinkler standards referenced in Article 3.2.5.13.

9.10.13. Doors, Dampers and Other Closures In Fire Separations

9.10.13.1. Closures

(1) Except as provided in Article 9.10.13.2., openings in required *fire separations* shall be protected with a *closure* conforming to Table 9.10.13.1. and shall be installed in conformance with Chapters 2 to 14 of NFPA 80, "Fire Doors and Windows" unless otherwise specified herein.

Table 9.10.13.1.

Fire-Protection Ratings for Closures

Forming Part of Sentence 9.10.13.1.(1)

| Required Fire-Resistance Rating of Fire Separation | Required Fire-Protection Rating of Closure |
|--|--|
| 30 or 45 min | 20 min ⁽¹⁾ |
| 1 h | 45 min ⁽¹⁾ |
| 1.5 h | 1 h |
| 2 h | 1.5 h |
| 3 h | 2 h |
| 4 h | 3 h |
| Column 1 | 2 |

Note to Table 9.10.13.1.:

(1) See Article 9.10.13.2.

9.10.13.2. Solid Core Wood Door as a Closure

(1) A 45 mm thick solid core wood door is permitted to be used where a minimum *fire-protection rating* of 20 min is permitted or between a *public corridor* and a *suite* provided the door conforms to CAN4-S113, "Standard Specification for Wood Core Doors Meeting the Performance Required by CAN4-S104 for Twenty Minute Fire-Rated Closure Assemblies".

(2) Doors described in Sentence (1) shall have not more than a 6 mm clearance beneath and not more than 3 mm at the sides and top.

(3) Where a 45 mm thick solid core wood door is permitted in a required *fire separation*, the requirement for a *noncombustible* sill in NFPA 80, "Fire Doors and Windows" shall not apply.

9.10.13.3. Unrated Wood Door Frames

(1) Doors required to provide a 20 min *fire-protection rating* or permitted to be 45 mm solid core wood shall be mounted in a wood frame of at least 38 mm thickness where the frame has not been tested and rated.

9.10.13.4. Doors as a Means of Egress

(1) Doors forming part of an *exit* or a *public means of egress* shall conform to Subsection 9.9.6. in addition to this Subsection.

9.10.13.5. Wired Glass as a Closure

(1) Wired glass conforming to Article 9.7.3.1. which has not been tested in accordance with Article 9.10.3.1. is permitted as a *closure* in a vertical *fire separation* required to have a *fire-resistance rating* of not more than 1 h provided such glass is not less than 6 mm thick and is mounted in conformance with Sentence (2).

(2) Wired glass described in Sentence (1) shall be mounted in fixed steel frames having a minimum metal thickness of not less than 1.35 mm and a glazing stop of not less than 20 mm on each side of the glass.

(3) Individual panes of glass described in Sentence (1) shall not exceed 0.8 m² in area or 1 400 mm in height or width, and the area of glass not structurally supported by mullions shall not exceed 7.5 m².

9.10.13.6. Steel Door Frames

(1) Steel door frames forming part of a *closure* in a *fire separation*, including anchorage requirements, shall conform to CAN4-S105, "Standard Specification for Fire Door Frames Meeting the Performance Required by CAN4-S104."

9.10.13.7. Glass Block as a Closure

(1) Glass block that has not been tested in accordance with Article 9.10.3.1. is permitted as a *closure* in a *fire separation* required to have a *fire-resistance rating* of not more than 1 h.

9.10.13.8. Maximum Size of Opening

(1) The size of an opening in an interior *fire separation*, even where protected with a *closure*, shall not exceed 11 m², with no dimension greater than 3.7 m, if a *fire compartment* on either side of the *fire separation* is not *sprinklered*.

(2) The size of an opening in an interior *fire separation*, even where protected with a *closure*, shall not exceed 22 m², with no dimension greater than 6 m, when the *fire compartments* on both sides of the *fire separation* are *sprinklered*.

9.10.13.9. Door Latch

(1) Every swing type door in a *fire separation* shall be equipped with a latch.

9.10.13.10. Self-Closing Device

(1) Except as described in Sentence (2), every door in a *fire separation* shall have a self-closing device.

(2) Self-closing devices are not required between *public corridors* and *suites* in *business and personal services occupancies*, except in

- (a) dead-end corridors, or
- (b) a corridor which serves a *hotel*.

9.10.13.11. Hold-Open Devices

(1) Where hold-open devices are used on doors in required *fire separations*, they shall be installed in accordance with Article 3.1.8.12.

9.10.13.12. Service Room Doors

(1) Swing-type doors shall open into *service rooms* containing fuel-fired equipment where such doors lead to *public corridors* or rooms used for assembly but shall swing outward from such rooms in all other cases.

9.10.13.13. Fire Dampers

(1) Except as permitted in Sentences (2) to (5) and 9.10.5.1.(4) ducts that connect 2 *fire compartments* or penetrate an assembly required to be a *fire separation* with a *fire-resistance rating* shall be equipped with a *fire damper* in conformance with Article 3.1.8.9.

(2) A *fire damper* is not required where a *noncombustible* branch duct pierces a required *fire separation* provided the duct

- (a) has melting point not below 760°C,
- (b) has a cross-sectional area less than 0.013 m², and

(c) supplies only air-conditioning units or combined *air-conditioning* and heating units discharging air at not more than 1 200 mm above the floor.

(3) A *fire damper* is not required where a *noncombustible* branch duct pierces a required *fire separation* around an *exhaust duct* riser in which the air flow is upward provided

- (a) the melting point of the branch duct is not below 760°C,
- (b) the branch duct is carried up inside the riser at least 500 mm, and
- (c) the *exhaust duct* is under negative pressure as described in Article 9.10.9.18.

(4) *Noncombustible* ducts that penetrate a *fire separation* separating a *vertical service space* from the remainder of the *building* need not be equipped with a *fire damper* at the *fire separation* provided

- (a) the ducts have a melting point above 760°C, and
- (b) each individual duct exhausts directly to the outside at the top of the *vertical service space*.

(5) A duct serving commercial cooking equipment and piercing a required *fire separation* need not be equipped with a *fire damper* at the *fire separation*.

9.10.13.14. Fire Stop Flaps

(1) *Fire stop flaps* in ceiling membranes required in Sentence 9.10.5.1.(4) shall be constructed in conformance with the Supplementary Guidelines.

9.10.13.15. Doors Between Garages and Dwelling Units

(1) A door between an attached or built-in garage and a *dwelling unit* shall be tight-fitting and weatherstripped to provide an effective barrier against the passage of gases and exhaust fumes and shall be fitted with a self-closing device.

(2) A doorway between an attached or built-in garage and a *dwelling unit* shall not be located in a room intended for sleeping.

9.10.13.16. Door Stops

(1) Where a door is installed so that it may damage the integrity of a *fire separation* if its swing is unrestricted, door stops shall be installed to prevent such damage.

9.10.14. Spatial Separations between Buildings**9.10.14.1. Maximum Percentage Area of Unprotected Openings**

(1) Except as provided in Sentence (2) and Articles 9.10.14.3. to 9.10.14.11., the maximum percentage of *unprotected openings* in an *exposing building face* shall conform to Table 9.10.14.1. or to Subsection 3.2.3., whichever is the least restrictive for the *occupancy* being considered.

(2) An opening in an *exposing building face* not more than 0.013 m² shall not be considered an *unprotected opening*.

Table 9.10.14.1.

Maximum Percentage of Unprotected Openings or Glazed Areas, % of *Exposing Building Face Area*

Forming Part of Sentence 9.10.14.1.(1)

| Occupancy Classification of Building | Maximum Area of Exposing Building Face, m ² | Limiting Distance, m | | | | | | | | | | | | | |
|---|--|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| | | Less than 1.2 | 1.2 | 1.5 | 2.0 | 2.5 | 3.0 | 4.0 | 6.0 | 8.0 | 10.0 | 12.0 | 16.0 | 20.0 | 25.0 |
| Residential, business and personal services and low hazard industrial | 10 | 0 | 8 | 12 | 21 | 33 | 55 | 96 | 100 | — | — | — | — | — | — |
| | 15 | 0 | 8 | 10 | 17 | 25 | 37 | 67 | 100 | — | — | — | — | — | — |
| | 20 | 0 | 8 | 10 | 15 | 21 | 30 | 53 | 100 | — | — | — | — | — | — |
| | 25 | 0 | 8 | 9 | 13 | 19 | 26 | 45 | 100 | — | — | — | — | — | — |
| | 30 | 0 | 7 | 9 | 12 | 17 | 23 | 39 | 88 | 100 | — | — | — | — | — |
| | 40 | 0 | 7 | 8 | 11 | 15 | 20 | 32 | 69 | 100 | — | — | — | — | — |
| | 50 | 0 | 7 | 8 | 10 | 14 | 18 | 28 | 57 | 100 | — | — | — | — | — |
| | 100 | 0 | 7 | 8 | 9 | 11 | 13 | 18 | 34 | 56 | 84 | 100 | — | — | — |
| Over 100 | 0 | 7 | 7 | 8 | 9 | 10 | 12 | 19 | 28 | 40 | 55 | 92 | 100 | — | |
| Mercantile and medium hazard industrial | 10 | 0 | 4 | 6 | 10 | 17 | 25 | 48 | 100 | — | — | — | — | — | — |
| | 15 | 0 | 4 | 5 | 8 | 13 | 18 | 34 | 82 | 100 | — | — | — | — | — |
| | 20 | 0 | 4 | 5 | 7 | 11 | 15 | 27 | 63 | 100 | — | — | — | — | — |
| | 25 | 0 | 4 | 5 | 7 | 9 | 13 | 22 | 51 | 94 | 100 | — | — | — | — |
| | 30 | 0 | 4 | 4 | 6 | 9 | 12 | 20 | 44 | 80 | 100 | — | — | — | — |
| | 40 | 0 | 4 | 4 | 6 | 8 | 10 | 16 | 34 | 61 | 97 | 100 | — | — | — |
| | 50 | 0 | 4 | 4 | 5 | 7 | 9 | 14 | 29 | 50 | 79 | 100 | — | — | — |
| | 100 | 0 | 4 | 4 | 4 | 5 | 6 | 9 | 17 | 28 | 42 | 60 | 100 | — | — |
| Over 100 | 0 | 4 | 4 | 4 | 4 | 5 | 6 | 10 | 14 | 20 | 27 | 46 | 70 | 100 | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

9.10.14.2 Area of Exposing Building Face

(1) The area of an *exposing building face* shall be calculated as the total area of exterior wall facing in 1 direction on any side of a *building* measured from the finished ground level to the uppermost ceiling, except that where a *building* is divided by *fire separations* into *fire compartments*, the area of *exposing building face* is permitted to be calculated for each *fire compartment* provided such separations have not less than a 45 min *fire-resistance rating*.

9.10.14.3. Inadequate Fire-fighting Facilities

(1) Where there is no fire department or where a fire department is not organized, trained and equipped to meet the needs of the community, the required *limiting distance* determined from Article 9.10.14.1. or required in Articles 9.10.14.12., 9.10.14.14., and 9.10.14.16., shall be doubled for a *building* that is not sprinklered.

9.10.14.4. Alternate Method of Determining Limiting Distance

(1) The *limiting distance* shown in Table 9.10.14.1. is permitted to be reduced provided it is not less than the square root of

- (a) the aggregate area of *unprotected openings* in an *exposing building face* in *residential occupancies, business and personal services occupancies and low hazard industrial occupancies*, and
- (b) twice the aggregate area of *unprotected openings* in *mercantile occupancies and medium hazard industrial occupancies*.

9.10.14.5. Openings in Walls Having a Limiting Distance Less Than 1.2 m.

(1) Openings in a wall having a *limiting distance* of less than 1.2 m shall be protected by *closures*, of other than wired glass or glass block,

whose *fire protection rating* is in conformance with the *fire-resistance rating* required for the wall.

9.10.14.6. Allowance for Sprinklers and Wired Glass or Glass Block

(1) The maximum area of *unprotected openings* is permitted to be doubled where the *building* is *sprinklered* provided all rooms, including closets and bathrooms, that are adjacent to the *exposing building face* and that have *unprotected openings* are *sprinklered*, notwithstanding any exemptions in the sprinkler standards referenced in Article 3.2.5.13.

(2) The maximum area of *unprotected openings* is permitted to be doubled where the *unprotected openings* are glazed with wired glass in steel frames or glass blocks as described in Articles 9.10.13.5. and 9.10.13.7.

9.10.14.7. Exterior Wall Construction for Irregular-Shaped or Skewed Walls

(1) For the purpose of using Table 9.10.14.11. to determine the required type of construction, cladding and *fire-resistance rating* for an exterior wall

- (a) the *exposing building face* is permitted to be divided into any number of portions and the *fire-resistance rating*, type of cladding and percentage of *unprotected openings* limitations is permitted to be determined individually for each portion based on the *limiting distance* for each portion so divided.
- (b) the *exposing building face* shall be taken as the projection of the exterior wall onto a vertical plane located so that no portion of the exterior wall of the *building* is between the vertical plane and the line to which the *limiting distance* is established in Clause (a), and

- (c) for the purpose of determining the actual area of *unprotected openings* permitted in an exterior wall, the *unprotected openings* shall be projected onto the vertical plane established in Clause (b).

(2) *Unprotected openings* in the *exposing building face* referred to in Sentence (1) shall not be permitted if the *limiting distance* is less than 1.2 m and shall be limited in conformance with the requirements for *unprotected openings* in Table 9.10.14.1. where the *limiting distance* is 1.2 m or greater.

9.10.14.8. Percentage of Unprotected Openings for Irregularly-Shaped or Skewed Walls

(1) For the purpose of using Table 9.10.14.1. to determine the actual percentage of *unprotected openings* permitted in an irregularly-shaped or skewed exterior wall, the location of the *exposing building face* is permitted to be taken at a vertical plane located so that there are no *unprotected openings* between the vertical plane and the line to which *limiting distance* is measured.

9.10.14.9. Storeys at Street Level

(1) The *exposing building face* of a storey that faces a *street* and is at approximately the same level as the *street* is permitted to have unlimited *unprotected openings* if the *limiting distance* is not less than 9 m.

9.10.14.10. Open-Air Storage Garages

(1) When a *storage garage* has all *storeys* constructed as *open-air storeys*, the *exposing building face* of such garage is permitted to have unlimited *unprotected openings* provided it has a *limiting distance* of not less than 3 m.

9.10.14.11. Construction of Exposing Building Face

(1) Except as permitted in Sentence (2) and Articles 9.10.14.12. to 9.10.14.16., each *exposing building face* and any exterior wall located above an *exposing building face* that encloses an *attic* or *roof space* shall be constructed in conformance with Table 9.10.14.11. and Subsection 9.10.8.

(2) Cladding installed on *exposing building faces* and exterior walls located above *exposing building faces* that enclose an *attic* or *roof space* need not conform to "Type of Cladding Required" in Table 9.10.14.11. provided

- (a) the *limiting distance* is not less than 600 mm,
- (b) the *exposing face* is constructed with no *unprotected openings*, and
- (c) the cladding conforms to Clauses 9.10.14.12.(3)(a) to (d).

Table 9.10.14.11.

Minimum Construction Requirements for Exposing Building Faces

Forming Part of Article 9.10.14.11.

| Occupancy Classification of Building | Maximum Area of Unprotected Openings Permitted, % of Exposing Building Face Area | Minimum Required Fire-Resistance Rating | Type of Construction Required | Type of Cladding Required |
|--|--|---|--|-------------------------------|
| Residential, business and personal services, and low hazard industrial | 0 – 10 | 1 h | Noncombustible Combustible or noncombustible Combustible or noncombustible | Noncombustible |
| | 11 – 25 | 1 h | | Noncombustible |
| | 26 – < 100 | 45 min | | Combustible or noncombustible |
| Mercantile and medium hazard industrial | 0 – 10 | 2 h | Noncombustible Combustible or noncombustible Combustible or noncombustible | Noncombustible |
| | 11 – 25 | 2 h | | Noncombustible |
| | 26 – < 100 | 1 h | | Combustible or noncombustible |
| Column 1 | 2 | 3 | 4 | 5 |

9.10.14.12. Exposing Building Face of Houses

(1) For the purposes of application of this Article

- (a) the *exposing building face* is permitted to be divided into any number of portions and the *fire-resistance rating*, type of cladding and glazed area limitations is permitted to be determined individually for each portion based on the *limiting distance* for each portion so divided,
- (b) the *exposing building face* shall be taken as the projection of the exterior wall onto a vertical plane located so that no portion of the exterior wall of the *building* is between the vertical plane and the line to which the *limiting distance* is established in Clause (a), and

(c) for the purpose of determining the actual percentage of glazed areas permitted in an exterior wall, the glazed area shall be projected onto the vertical plane established in Clause (b).

(2) Except as required in Article 9.10.14.3. and as provided in Sentence (4), in *buildings* containing only *dwelling units* in which there is no *dwelling unit* above another *dwelling unit*, the requirements of Article 9.10.14.11. do not apply provided that the *exposing building face*

- (a) has a *fire-resistance rating* of not less than 45 min where the *limiting distance* is less than 1.2 m, and
- (b) is clad with *non-combustible* material where the *limiting distance* is less than 600 mm.

(3) Cladding on the *exposing building face* described in Sentence (2) is permitted to be vinyl when the *limiting distance* is less than 600 mm provided the cladding

- (a) conforms to Subsection 9.27.13.,
 - (b) is installed over sheathing paper and 12.7 mm gypsum sheathing,
 - (c) has a flame spread rating not greater than 25 when tested in accordance with sentence 3.1.12.1.(2), and
 - (d) material thickness is not more than 2 mm exclusive of fasteners, joints and local reinforcements.
- (4) Glazed areas in the *exposing building face* referred to in Sentence (1)
- (a) shall not be permitted if the *limiting distance* is less than 1.2 m, and
 - (b) shall be limited in conformance with the requirements for glazed areas in Table 9.10.14.1. where the *limiting distance* is 1.2 m or greater.
- (5) The required *limiting distance* for an *exposing building face* is permitted to be measured to a point beyond the property line that is not the centre line of a *street*, lane or public thoroughfare if
- (a) the owners of the properties on which the *limiting distance* is measured and the *municipality* enter into an agreement in which such owners agree that,
 - (i) each owner covenants that, for the benefit of land owned by the other covenantors, the owner will not *construct a building* on his or her property unless the *limiting distance* for *exposing building faces* in respect of the proposed *construction* is measured in accordance with the agreement,
 - (ii) the covenants contained in the agreement are intended to run with the lands, and the agreement shall be binding on the parties and their respective heirs, executors, administrators, successors and assigns,
 - (iii) the agreement shall not be amended or deleted from title without the consent of the *municipality*, and
 - (iv) they will comply with such other conditions as the *municipality* considers necessary, including indemnification of the *municipality* by the other parties, and
 - (b) the agreement referred to in Clause (a) is registered against the title of the properties to which it applies.

9.10.14.13. Combustible Projections

(1) Except for *buildings* containing 1 or 2 *dwelling units* only, *combustible* projections on the exterior of a wall that are more than 1 000 mm above ground level, such as balconies, platforms, canopies, eave projections and stairs, and that could expose an adjacent *building* to fire spread, shall not be permitted within

- (a) 1 200 mm of a property line or the centreline of a *public way*, or
- (b) 2 400 mm of a *combustible* projection on another *building* on the same property.

9.10.14.14. Detached Garage or Accessory Building Serving One Dwelling Unit

(1) Except as required in Article 9.10.14.3., the *exposing building face* of a garage or accessory *building* that serves one *dwelling unit* only and is detached from any *building* shall have a *fire-resistance* rating of at least 45 min, except that no *fire-resistance* rating is required where the *limiting distance* is 600 mm or greater.

(2) The exterior *cladding* of detached garages or accessory *buildings* described in Sentence (1) is not required to be *noncombustible* regardless of the *limiting distance*.

(3) The percentage of glazed areas permitted in the *exposing building face* of detached garages or accessory *buildings* described in Sentence (1) shall conform to the requirements for glazed areas in Table 9.10.14.1.

(4) The requirements for *limiting distance* shall not apply between a detached garage or accessory *building* and a *dwelling unit* where

- (a) the detached garage or accessory *building* serves only one *dwelling unit*,
- (b) the detached garage or accessory *building* is located on the same property as that *dwelling unit*, and
- (c) the *dwelling unit* served by the detached garage or accessory *building* is the only *major occupancy* on the property.

9.10.14.15. Heavy Timber and Steel Columns

(1) Heavy timber and steel columns need not conform to the requirements of Article 9.10.14.11. provided the *limiting distance* is not less than 3 m.

9.10.14.16. Low Fire Load Occupancies

(1) Except as required in Article 9.10.14.3., in *buildings* of 1 storey in *building height* of *noncombustible construction* classified as *low hazard industrial occupancy* which are used only for *low fire load occupancies* such as power generating plants or plants for the manufacture or storage of *noncombustible* materials, *non-loadbearing* wall components need not have a minimum *fire-resistance* rating provided the *limiting distance* is 3 m or more.

9.10.15. Fire Stops

9.10.15.1. Required Fire Stops in Concealed Spaces

(1) Concealed spaces in interior walls, ceilings and crawl spaces shall be separated by fire stops from concealed spaces in exterior walls and *attic* or *roof spaces*.

(2) Fire stops shall be provided at all interconnections between concealed vertical and horizontal spaces in interior coved ceilings, drop ceilings and soffits where the exposed *construction materials* within the concealed spaces have a surface *flame-spread* rating greater than 25.

(3) Fire stops shall be provided at the top and bottom of each run of stairs where they pass through a floor containing concealed space in which the exposed *construction materials* within the space have a surface *flame-spread* rating greater than 25.

(4) In unsprinklered *buildings* of *combustible construction*, every concealed space created by a ceiling, roof space or unoccupied attic space shall be separated by fire stops into compartments of not more than not more than 300 m² in area where such space contains exposed *construction materials* having a surface *flame-spread* rating greater than 25.

(5) No dimension of such space shall exceed 20 m.

(6) Concealed spaces in mansard or gambrel style roofs, exterior cornices, balconies and canopies of *combustible construction* in which the exposed construction materials within the space have a surface *flame-spread rating* exceeding 25 shall have vertical fire stops at intervals of not more than 20 m and at points where such concealed spaces extend across the ends of required vertical *fire separations*.

9.10.15.2. Required Fire Stops in Wall Assemblies

(1) Except as permitted in Sentences (2) and (3), fire stops shall be provided to block off concealed spaces within wall assemblies, including spaces created by furring

- (a) at each floor level,
- (b) at each ceiling level where the ceiling contributes to part of the required *fire-resistance rating*, and
- (c) at other locations within the wall, so that the distance between fire stops does not exceed 20 m horizontally and 3 m vertically.

(2) Fire stops required in Sentence (1) are not required provided

- (a) the width of the concealed wall space does not exceed 25 mm,
- (b) the exposed construction materials within the space are *noncombustible*, or
- (c) the exposed construction materials within the space, including insulation, but not including wiring, piping or similar services, have a *flame-spread rating* of not more than 25.

(3) Fire stops required in Sentence (1) are not required provided the wall space is filled with insulation.

9.10.15.3. Fire Stop Materials

(1) Fire stops shall be constructed of not less than

- (a) 0.38 mm sheet steel,
- (b) 6 mm asbestos board,
- (c) 12.7 mm gypsum wallboard,
- (d) 12 mm plywood, OSB or waferboard, with joints having continuous support,
- (e) 2 layers of 19 mm lumber with joints staggered,
- (f) 38 mm lumber, or
- (g) materials conforming to Sentence 3.1.11.7.(1).

9.10.15.4. Penetration of Fire Stops

(1) Where fire stops are pierced by pipes, ducts or other elements, the effectiveness of the fire stops shall be maintained around such elements.

9.10.16. Flame Spread Limits

9.10.16.1. Flame Spread Rating of Interior Surfaces

(1) Except as otherwise provided in this Subsection, the exposed surface of every interior wall and ceiling, including skylights and glazing, shall have a surface *flame-spread rating* of not more than 150.

(2) Except as permitted in Sentence (3), doors need not conform to Sentence (1) provided they have a surface *flame-spread rating* of not more than 200.

(3) Doors within *dwelling units*, other than vehicle garage doors, need not conform to Sentences (1) and (2).

9.10.16.2. Ceilings in Exits or Public Corridors

(1) At least 90% of the exposed surface of every ceiling in an *exit* or unsprinklered ceiling in a *public corridor* shall have a surface *flame-spread rating* of not more than 25.

9.10.16.3. Walls in Exits

(1) Except as provided in Sentence (2), at least 90% of the exposed surfaces of every wall in an *exit* shall have a surface *flame-spread rating* of not more than 25.

(2) At least 75% of the wall surface of a lobby used as an *exit* in Article 9.9.8.5. shall have a surface *flame-spread rating* of not more than 25.

9.10.16.4. Exterior Exit Passageways

(1) Where an exterior *exit* passageway provides the only *means of egress* from the rooms or *suites* it serves, the wall and ceiling finishes of that passageway, including the soffit beneath and the *guard* on the passageway, shall have a surface *flame-spread rating* of not more than 25, except that up to 10% of the total wall area and 10% of the total ceiling area is permitted to have a surface *flame-spread rating* of not more than 150.

9.10.16.5. Walls in Public Corridors

(1) At least 90% of the total wall surface in any unsprinklered *public corridor* shall have a surface *flame-spread rating* of not more than 75, or at least 90% of the upper half of such walls shall have a surface *flame-spread rating* of not more than 25.

9.10.16.6. Calculation of Wall and Ceiling Areas

(1) Skylights, glazing, *combustible* doors, and *combustible* light diffusers and lenses shall not be considered in the calculation of wall and ceiling areas in this Subsection.

9.10.16.7. Corridors Containing an Occupancy

(1) Where a *public corridor* or a corridor used by the public contains an *occupancy*, the interior finish materials used on the walls or ceiling of such *occupancy* shall have a surface *flame-spread rating* in conformance with that required for *public corridors*.

9.10.16.8. Light Diffusers and Lenses

(1) Light diffusers and lenses having *flame-spread ratings* that exceed those permitted for the ceiling finish, shall conform to the requirements of Sentence 3.1.13.4.(1).

9.10.16.9. Combustible Skylights

(1) Individual *combustible* skylights in corridors required to be separated from the remainder of the *building* by *fire separations* shall not exceed 1 m² in area and shall be spaced not less than 1 200 mm apart.

9.10.16.10. Protection of Foamed Plastics

(1) Except as provided in Sentence (2), foamed plastics which form part of a wall or ceiling assembly in *combustible construction* shall be protected from adjacent space in the *building* other than adjacent concealed spaces within *attic or roof spaces*, *crawl spaces*, and wall assemblies, by

- (a) one of the finishes described in Subsections 9.29.4. to 9.29.9.,
- (b) sheet metal mechanically fastened to the supporting assembly independent of the insulation and having a thickness of not less than 0.38 mm and a melting point not below 650°C provided the building does not contain a Group C *major occupancy*, or
- (c) any thermal barrier that meets the requirements of Clause 3.1.5.11.(2)(e).

(2) Foamed plastic insulation having a *flame-spread rating* of not more than 500 is permitted to be used in factory-assembled doors in *storage garages* serving *buildings* of *residential occupancy* provided that

- (a) the insulation is covered on the interior with a metallic foil,
- (b) the assembly has a surface *flame-spread rating* of not more than 200, and
- (c) the assembly incorporates no air spaces.

9.10.16.11. Walls and Ceilings in Bathrooms

(1) The interior finish of walls and ceilings in bathrooms within *suites* of *residential occupancy* shall have a surface *flame-spread rating* of not more than 200.

9.10.16.12. Coverings or Linings of Ducts

(1) Where a covering or a lining is used with a duct, such lining or covering shall have a *flame-spread rating* conforming to Part 6.

9.10.17. Alarm and Detection Systems**9.10.17.1. Access Provided through a Firewall**

(1) Where access is provided through a *firewall*, the requirements in this Subsection shall apply to the *floor areas* on both sides of the *firewall* as if they were in the same *building*.

9.10.17.2. Fire Alarm System Required

(1) Except as provided in Sentence (2), a fire alarm system shall be installed

- (a) in every *building* that contains more than 3 *storeys*, including *storeys* below the *first storey*,
- (b) where the total *occupant load* exceeds 300, or
- (c) when the *occupant load* for any *major occupancy* in Table 9.10.17.2. is exceeded.

Table 9.10.17.2.

Maximum Occupant Load for Buildings without Fire Alarm Systems

Forming Part of Sentence 9.10.17.2.(1)

| Major Occupancy Classification | Occupant Load above which Fire Alarm System is required |
|---|---|
| <i>Residential</i> | 10 (sleeping accommodation) |
| <i>Business and personal services, mercantile</i> | 150 above or below the <i>first storey</i> |
| <i>Low or medium hazard industrial</i> | 75 above or below the <i>first storey</i> |
| Column 1 | 2 |

(2) A fire alarm system is not required in a *residential occupancy* where an *exit* or *public corridor* serves not more than 4 *suites* or where each *suite* has direct access to an exterior *exit* facility leading to ground level.

9.10.17.3. Rooms and Spaces Requiring Heat Detectors or Smoke Detectors

(1) Where a fire alarm system is required, every *public corridor* in *buildings* of *residential occupancy* and every *exit* stair shaft shall be provided with *smoke detectors*.

(2) Except as provided in Sentence (3), *buildings* required to have a fire alarm system shall be equipped with *heat detectors* or *smoke detectors* in storage rooms, *service rooms*, elevator shafts, chutes, janitors closets and any other rooms where hazardous substances are intended to be used or stored.

(3) Except as required in Sentence (4), *heat detectors* and *smoke detectors* described in Sentence (2), are not required in *dwelling units* or in *sprinklered buildings* in which the sprinkler system is electrically supervised and equipped with a water flow alarm.

(4) Where a fire alarm system is required in a *hotel*, *heat detectors* shall be installed in every room in a *suite* and in every room not located in a *suite* in a *floor area* containing a *hotel* other than washrooms within a *suite*, saunas, refrigerated areas and swimming pools.

9.10.17.4. Smoke Detectors in Recirculating Air Handling Systems

(1) Except for a recirculating air system serving not more than 1 *dwelling unit*, where a fire alarm system is required to be installed, every recirculating air handling system shall be designed to prevent the circulation of smoke upon a signal from a duct-type *smoke detector* where such system supplies more than one *suite* on the same floor or serves more than 1 *storey*.

9.10.17.5. Portions of Buildings Considered as Separate Buildings

(1) Except as provided in Sentence (2), where a vertical *fire separation* having a *fire-resistance rating* of at least 1 h separates a portion of a *building* from the remainder of the *building* and there are no openings through the *fire separation* other than those for piping, tubing, wiring and conduit, the requirements for fire alarm and detection systems is permitted to be applied to each portion so separated as if it were a separate *building*.

(2) The permission in Sentence (1) to consider separated portions of a *building* as separate *buildings* does not apply to *service rooms* and storage rooms.

9.10.17.6. Design and Installation Requirements

(1) Fire alarm, fire detection and smoke detection devices and systems, and their installation, shall conform to Subsection 3.2.4.

9.10.17.7. Reserved**9.10.17.8. Open-Air Storage Garages**

(1) Except as required in Article 9.10.17.1., a fire alarm system is not required in a *storage garage* conforming to Article 3.2.2.60. provided there are no other *occupancies* in the *building*.

9.10.17.9. Fire Alarm System in a Hotel

(1) If a fire alarm system is required in a *building* containing a *hotel*, a single stage fire alarm system shall be provided.

9.10.18. Smoke Alarms**9.10.18.1. Required Smoke Alarms**

(1) *Smoke alarms* conforming to CAN/ULC-S531, "Standard for Smoke Alarms" shall be installed in each *dwelling unit* and in each sleeping room not within a *dwelling unit*.

9.10.18.2. Location of Smoke Alarms

(1) Within *dwelling units*, sufficient *smoke alarms* shall be installed so that

- (a) there is at least one *smoke alarm* on each floor level, including *basements*, that is 900 mm or more above or below an adjacent floor level,
- (b) each bedroom is protected by a *smoke alarm* either inside the bedroom or, if outside, within 5 m, measured following corridors and doorways, of the bedroom door, and
- (c) the distance, measured following corridors and doorways, from any point on a floor level to a *smoke alarm* on the same level does not exceed 15 m.

(2) *Smoke alarms* required in Article 9.10.18.1. and Sentence (1) shall be installed on or near the ceiling.

(3) *Smoke alarms* required in Sentences (1) and (2) shall be audible within the bedrooms when the intervening doors are closed.

(4) *Smoke alarms* required in Sentences (1) and (2) shall be installed in conformance with the manufacturers instructions.

9.10.18.3. Power Supply

(1) Except as permitted in Sentence (2), *smoke alarms* shall be installed by permanent connections to an electrical circuit and shall have no disconnect switch between the overcurrent circuit device and the *smoke alarm*.

(2) Where the *building* is not supplied with electrical power, *smoke alarms* are permitted to be battery operated.

9.10.18.4. Interconnection of Smoke Alarms

(1) Where more than one *smoke alarm* is required in a *dwelling unit*, the *smoke alarms* shall be wired so that the activation of one alarm will cause all alarms within the *dwelling unit* to sound.

9.10.18.5. Instructions for Maintenance and Repair

(1) Where instructions are necessary to describe the maintenance and care required for *smoke alarms* to ensure continuing satisfactory performance, they shall be posted in a location where they will be readily available to the occupants for reference.

9.10.18.6. Silencing of Alarm Noise

(1) It is permitted to incorporate a manually operated device within the circuitry of a *smoke alarm* installed within a *dwelling unit* that will silence the noise emitted by the *smoke alarm* which initiated the alarm for a period of not more than 5 min, after which the *smoke alarm* will reset and again sound the alarm if the level, of smoke in the vicinity is sufficient to reactivate the *smoke alarm*.

9.10.19. Fire-fighting**9.10.19.1. Windows or Access Panels Required**

(1) Except as provided in Sentence (3), a window or access panel providing an opening not less than 1 100 mm high and 550 mm wide and having a sill height of not more than 900 mm above the floor shall be provided on the second and third *storeys* of every *building* in at least one wall facing on a *street* if such *storeys* are not *sprinklered*.

(2) Access panels required in Sentence (1) shall be readily openable from both inside and outside or be glazed with plain glass.

(3) Access panels required in Sentence (1) need not be provided in *buildings* containing only *dwelling units* where there is no *dwelling unit* above another *dwelling unit*.

9.10.19.2. Access to Basements

(1) Except in *basements* serving not more than one *dwelling unit*, each unsprinklered *basement* exceeding 25 m in length or width shall be provided with direct access to the outdoors to not less than one *street*.

(2) Access required in Sentence (1) is permitted to be provided by a door, window or other means that provides an opening not less than 1 100 mm high and 550 mm wide, the sill height of which shall not be more than 900 mm above the floor.

(3) Access required in Sentence (1) is also permitted to be provided by an interior stair accessible from the outdoors.

9.10.19.3. Fire Department Access to Buildings

(1) Access for fire department equipment shall be provided to each *building* by means of a *street*, private roadway or yard.

(2) Where access to a *building* as required in Sentence (1) is provided by means of a roadway or yard, the design and location of such roadway or yard shall take into account connection with public thoroughfares, weight of fire fighting equipment, width of roadway, radius of curves, overhead clearance, location of fire hydrants, location of fire department connections and vehicular parking.

9.10.19.4. Portable Extinguishers

(1) Portable extinguishers shall be installed in all *buildings*, except within *dwelling units*, in conformance with the provisions of the Ontario Fire Code made under the *Fire Marshals Act*.

9.10.19.5. Freeze Protection for Fire Protection Systems

(1) Equipment forming part of a fire protection system that may be adversely affected by freezing temperatures and that is located in an unheated area shall be protected from freezing.

9.10.20. Fire Protection for Construction Camps**9.10.20.1. Requirements for Construction Camps**

(1) Except as provided in Articles 9.10.20.2. to 9.10.20.9., *camps for housing of workers* shall conform to Subsections 9.10.1. to 9.10.19.

9.10.20.2. Separation of Sleeping Rooms

(1) Except for sleeping rooms within *dwelling units*, sleeping rooms in a *building* in a *camp for housing of workers* shall be separated from each other and from the remainder of the *building* by a *fire separation* having not less than a 30 min *fire-resistance rating*.

9.10.20.3. Floor Assemblies Between the First and Second Storey

(1) Except in a *dwelling unit*, a floor assembly in a *building* in a *camp for housing of workers* separating the *first storey* and the *second storey* shall be constructed as a *fire separation* having not less than a 30 min *fire-resistance rating*.

9.10.20.4. Walkways Connecting Buildings

(1) Walkways of *combustible construction* connecting *buildings* shall be separated from each connected *building* by a *fire separation* having not less than a 45 min *fire-resistance rating*.

9.10.20.5. Spatial Separations

(1) *Buildings* in a *camp for housing of workers* shall be separated from each other by a distance of not less than 10 m unless otherwise permitted in Subsection 9.10.14.

9.10.20.6. Flame Spread Ratings

(1) Except in *dwelling units* and except as provided in Sentence (2), the *surface flame-spread rating* of wall and ceiling surfaces in corridors and *walkways*, exclusive of doors, shall not exceed 25 over not less than 90 per cent of the exposed surface area and not more than 150 over the remaining surface area.

(2) Except within *dwelling units*, corridors that provide *access to exit* from sleeping rooms and having a *fire-resistance rating* of not less than 45 min shall have a *flame-spread rating* conforming to the appropriate requirements in Subsection 9.10.16.

9.10.20.7. Smoke Detectors

(1) Except in *dwelling units*, corridors providing *access to exit* from sleeping rooms in every *building* in a *camp for housing of workers* with sleeping accommodation for more than 10 persons shall have a *smoke detector* connected to the *building alarm system*.

9.10.20.8. Portable Fire Extinguishers

(1) Each *building* in a *camp for housing of workers* shall be provided with portable fire extinguishers in conformance with the provisions of the Ontario Fire Code made under the *Fire Marshals Act*.

9.10.20.9. Hose Stations

(1) Every *building* in a *camp for housing of workers* providing sleeping accommodation for more than 30 persons shall be provided with a hose station that is protected from freezing and equipped with a hose of sufficient length so that every portion of the *building* is within the range of a hose stream.

(2) Hose stations required in Sentence (1) shall be located near an *exit*.

(3) Hoses referred to in Sentence (1) shall be not less than 19 mm inside diam and shall be connected to a central water supply or to a storage tank having a capacity of at least 4 500 L with a pumping system capable of supplying a flow of at least 5 L/s at a gauge pressure of 300 kPa.

9.10.21. Fire Protection for Gas and Electric Ranges**9.10.21.1. Installation of Gas Ranges**

(1) Reserved

(2) Clearances for gas *ranges* shall be not less than those provided in Articles 9.10.21.2. and 9.10.21.3.

9.10.21.2. Vertical Clearances

(1) Except as provided in Sentence (2), framing, finishes and cabinetry installed directly above the location of the range shall be not less than 750 mm above the level of the electric or gas range burners or elements.

(2) The vertical clearance described in Sentence (1) for framing, finishes and cabinets located directly above the location of the range is permitted to be reduced to 600 mm above the level of the elements or burners provided the framing, finishes and cabinets

(a) are *noncombustible*, or

(b) are protected by

(i) asbestos millboard not less than 6 mm thick, covered with sheet metal not less than 0.33 mm thick, or

(ii) a metal hood with a 125 mm projection beyond the framing, finishes and cabinets.

9.10.21.3. Horizontal Clearances

(1) Except as provided in Sentences (2) to (3), *combustible* wall framing, finishes or cabinets within 450 mm of the area where the *range* is to be located shall be protected above the level of the heating elements by material providing fire resistance not less than that of a 9.5 mm thickness of gypsum board.

(2) Counter-top splash boards or back plates which extend above the level of the heating elements need not be protected as described in Sentence (1).

(3) Except for cabinetry described in Article 9.10.21.2., cabinetry located not less than 450 mm above the level of the heating elements need not be protected as described in Sentence (1).

Section 9.11. Sound Control**9.11.1. Sound Transmission Class Rating (Airborne Sound)****9.11.1.1. Determination of Sound Class Transmission Rating**

(1) Sound transmission class ratings shall be determined in accordance with ASTM E413, "Classification for Rating Sound Insulation", using results from measurements in accordance with

(a) ASTM E 90, "Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions", or

(b) ASTM E 336, "Measurement of Airborne Sound Insulation in Buildings".

9.11.2. Required Sound Control Locations (Airborne Sound)**9.11.2.1. Minimum Sound Transmission Class Rating**

(1) Except as provided in Sentence (2), every *dwelling unit* and every *suite* in *hotels* and *motels*, shall be separated from every other

space in a *building* in which noise may be generated, by a construction providing a sound transmission class rating of at least 50, measured in accordance with Subsection 9.11.1. or as listed in Tables 9.10.3.1.A. and 9.10.3.1.B. in the Supplementary Guidelines.

(2) Where a *dwelling unit* is adjacent to an elevator shaft or a refuse chute, the separating construction shall have a sound transmission class rating of at least 55, measured in accordance with Subsection 9.11.1. or listed in Tables 9.10.3.1.A. and 9.10.3.1.B. in the Supplementary Guidelines.

9.11.2.2. Building Services in an Assembly

(1) *Building* services located in an assembly required to have a sound transmission class rating shall be installed in a manner that will not decrease the required rating of the assembly.

Section 9.12. Excavation

9.12.1. General

9.12.1.1. Removal of Topsoil and Organic Matter

(1) The topsoil and vegetable matter in all unexcavated areas under a *building* shall be removed.

(2) In localities where termite infestation is known to be a problem, all stumps, roots and other wood debris shall be removed from the soil to a depth of not less than 300 mm in unexcavated areas under a *building*.

(3) The bottom of every *excavation* shall be free of all organic material.

9.12.1.2. Standing Water

(1) *Excavations* shall be kept free of standing water.

9.12.1.3. Protection from Freezing

(1) The bottom of *excavations* shall be kept from freezing throughout the entire construction period.

9.12.1.4. Precautions During Excavation

(1) Every *excavation* shall be undertaken in such a manner to prevent damage to adjacent property, existing structures, utilities, roads and sidewalks at all stages of construction.

(2) Material shall not be placed nor shall equipment be operated or placed in or adjacent to an *excavation* in a manner that may endanger the integrity of the *excavation* or its supports.

9.12.2. Depth

9.12.2.1. Excavation to Undisturbed Soil

(1) *Excavations* for *foundations* shall extend to undisturbed soil.

9.12.2.2. Minimum Depth of Foundations

(1) Except as provided in Sentences (4) and (5), the minimum depth of *foundations* below finished ground level shall conform to Table 9.12.2.2.

Table 9.12.2.2.

Minimum Depths of Foundation

Forming Part of Sentence 9.12.2.2.(1)

| Type of Soil | Foundation containing heated Basement or Crawl Space ⁽¹⁾ | | Foundation Containing no Heated Space ⁽²⁾ | |
|-----------------------------------|---|--------------------|--|--|
| | Good Soil Drainage ⁽³⁾ | Poor Soil Drainage | Good Soil Drainage ⁽³⁾ | Poor Soil Drainage |
| Rock | No limit | No limit | No limit | No limit |
| Coarse grained soils | No limit | No limit | No limit | Below the depth of frost penetration |
| Silt | No limit | No limit | Below the depth of frost penetration | Below the depth of frost penetration |
| Clay or soils not clearly defined | 1.2 m | 1.2 m | 1.2 m but not less than the depth of frost penetration | 1.2 m but not less than the depth of frost penetration |
| Column 1 | 2 | 3 | 4 | 5 |

Notes to Table 9.12.2.2.:

(1) Foundation not insulated to reduce heat loss through the footings.

(2) Including foundations containing heated space insulated to reduce heat loss through the footings.

(3) To not less than the depth of frost penetration.

(2) Where a *foundation* is insulated in a manner that will reduce the heat flow to the soil beneath the footings, the *foundation* depth shall conform to that required for *foundations* containing no heated space.

(3) The minimum depth of *foundations* for exterior concrete steps with more than 2 risers shall conform to Sentences (1) to (5).

(4) Concrete steps with 1 and 2 risers are permitted to be laid on ground level.

(5) The *foundation* depths required in Sentence (1) are permitted to be decreased where experience with local soil conditions shows that lesser depths are satisfactory, or where the *foundation* is designed for lesser depths.

(6) The *foundation* depths required in Sentence (1) do not apply to *foundations* for *buildings* of other than masonry or masonry veneer construction

(a) whose superstructure conforms with the requirements of the deformation resistance test in CAN/CSA-Z240.2.1., "Structural Requirements for Mobile Homes", or

(b) used as accessory *buildings* of not more than 1 storey in *building height* and not more than 50 m² in *building area*.

9.12.3. Backfill

9.12.3.1. Placement of Backfill

(1) Backfill shall be placed to avoid damaging the *foundation wall*, the drainage tile, drainage layer, externally applied thermal insulation, waterproofing and dampproofing of the wall.

9.12.3.2. Grading of Backfill

(1) Backfill shall be graded to prevent drainage towards the *foundation* after settling.

9.12.3.3. Deleterious Debris and Boulders

(1) Backfill within 600 mm of the *foundation* shall be free of deleterious debris and boulders larger than 250 mm diam.

9.12.3.4. Lateral Support of Foundation Wall

(1) Where the height of *foundation wall* is such that lateral support is required, or where the required concrete strength of the wall has not been reached, the wall shall be braced or laterally supported before backfilling.

9.12.4. Trenches Beneath Footings

9.12.4.1. Compacting or Filling With Concrete

(1) The *soil* in trenches beneath footings for sewers and water mains shall be compacted by tamping up to the level of the footing base, or shall be filled with concrete having a strength not less than 10 MPa to support the footing.

Section 9.13. Dampproofing, Waterproofing and Soil Gas Control

9.13.1. General

9.13.1.1. Required Dampproofing

(1) Except as provided in Article 9.13.1.2., where the exterior finished ground level is at a higher elevation than the ground level inside the *foundation walls*, exterior surfaces of *foundation walls* below ground level shall be dampproofed.

(2) Except as provided in Sentence (3) and Article 9.13.1.2., floors-on-ground shall be dampproofed.

(3) Floors in garages, floors in unenclosed portions of *buildings* and floors installed over granular *fill* in conformance with Article 9.16.2.1. need not be dampproofed.

(4) Dampproofing in Sentence (1) is not required where the exterior surfaces of *foundation walls* below ground level are waterproofed.

9.13.1.2. Required Waterproofing

(1) Where hydrostatic pressure occurs, floors-on-ground and exterior surfaces of walls below ground level shall be waterproofed.

(2) Roofs of underground structures shall be waterproofed to prevent the entry of water into the structure.

9.13.1.3. Required Soil Gas Control

(1) Except as provided in Sentence (2), all wall, roof and floor assemblies in contact with the ground shall be constructed to resist the leakage of *soil gas* from the ground into the *building*.

(2) Construction to resist leakage of *soil gas* into the *building* is not required for

- (a) garages and unenclosed portions of *buildings*,
- (b) *buildings* constructed in areas where it can be demonstrated that *soil gas* does not constitute a hazard, or
- (c) *buildings* that contain a single *dwelling unit* and are constructed to provide for sub-floor depressurization in accordance with the Supplementary Guidelines.

9.13.1.4. Standards for Application

(1) The method of application of all bituminous waterproofing and dampproofing materials shall conform to

- (a) CAN/CGSB 37.3-M, "Application of Emulsified Asphalts for Dampproofing or Waterproofing",
- (b) CGSB 37-GP-12Ma, "Application of Unfilled Cutback Asphalt for Dampproofing", or
- (c) CAN/CGSB-37.22-M, "Application of Unfilled Cutback Tar Foundation Coating for Dampproofing".

9.13.2. Material

9.13.2.1. Material Standards

(1) Except as otherwise specified in this Section, materials used for exterior dampproofing or waterproofing shall conform to

- (a) CAN/CGSB-37.1-M, "Chemical Emulsified Type, Emulsified Asphalt for Dampproofing",
- (b) CAN/CGSB-37.2-M, "Emulsified Asphalt, Mineral Colloid Type, Unfilled, for Dampproofing and Waterproofing and for Roof Coatings",
- (c) CGSB 37-GP-6Ma, "Asphalt, Cutback, Unfilled, for Dampproofing",
- (d) CAN/CGSB-37.16-M, "Filled, Cutback Asphalt for Dampproofing and Waterproofing",
- (e) CGSB 37-GP-56M, "Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing",
- (f) CGSB 37-GP-18Ma, "Tar, Cutback, Unfilled, for Dampproofing",
- (g) CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet, for Use in Building Construction", or
- (h) CSA A123.4, "Bitumen for Use in Construction of Built-Up Roof Coverings and Dampproofing and Waterproofing Systems".

(2) Materials used to provide a barrier to *soil* gas ingress shall conform to CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet, for Use in Building Construction".

9.13.3. Dampproofing of Walls

9.13.3.1. Preparation of Surface

- (1) Unit masonry walls to be dampproofed shall be
 - (a) parged on the exterior face below ground level with not less than 6 mm of mortar conforming to Section 9.20, and
 - (b) coved over the footing when the first course of block is laid.
- (2) Concrete walls to be dampproofed shall have holes and recesses resulting from the removal of form ties sealed with cement mortar or dampproofing material.

9.13.3.2. Application of Dampproofing Material

- (1) Dampproofing material shall be applied over the parging or concrete below ground level.

9.13.3.3. Interior Dampproofing of Walls

(1) Where a separate interior finish is applied to a concrete or unit masonry wall which is in contact with the *soil*, or where wood members are applied to such walls for the installation of insulation or finish, the interior surface of the *foundation* wall below ground level shall be dampproofed.

(2) The dampproofing required in Sentence (1) shall extend from the *basement* floor and shall terminate at ground level.

(3) No membrane or coating with a permeance less than 170 ng/(Pa.s.m²) shall be applied to the interior surface of the *foundation* wall above ground level between the insulation and the *foundation* wall.

9.13.3.4. Dampproofing of Preserved Wood Foundation Walls

(1) Preserved wood *foundation* walls shall be dampproofed as described in CAN3-S406, "Construction of Preserved Wood Foundations".

9.13.4. Dampproofing of Floors-on-Ground

9.13.4.1. Location of Dampproofing

(1) When floors are dampproofed, the dampproofing shall be installed below the floor, except that where a separate floor is provided over a slab, the dampproofing is permitted to be applied to the top of the slab.

9.13.4.2. Dampproofing below the Floor

(1) When installed below the floor, dampproofing membranes shall consist of polyethylene not less than 0.15 mm thick, or type S roll roofing.

(2) Joints in dampproofing membranes shall be lapped not less than 300 mm.

9.13.4.3. Dampproofing above the Slab

(1) When installed above the slab, dampproofing shall consist of not less than

- (a) 2 mopped-on coats of bitumen,
- (b) 0.05 mm polyethylene, or
- (c) other material providing equivalent performance.

9.13.5. Waterproofing of Walls

9.13.5.1. Preparation of Surface

(1) Except where it can be shown to be unnecessary, unit masonry walls to be waterproofed shall be parged on exterior surfaces below ground level with not less than 6 mm of mortar conforming to Section 9.20.

(2) Concrete walls to be waterproofed shall have all holes and recesses resulting from removal of form ties sealed with mortar or waterproofing material.

9.13.5.2. Application of Waterproofing Membranes

(1) Concrete or unit masonry walls to be waterproofed shall be covered with not less than 2 layers of bitumen-saturated membrane, with each layer cemented in place with bitumen and coated over-all with a heavy coating of bitumen.

9.13.6. Waterproofing of Floors-on-Ground

9.13.6.1. Floor Waterproofing System

(1) *Basement* floors-on-ground to be waterproofed shall have a system of membrane waterproofing provided between 2 layers of concrete, each of which shall be not less than 75 mm thick, with the floor membrane mopped to the wall membrane to form a complete seal.

9.13.7. Soil Gas

9.13.7.1. Soil Gas Control

(1) Where methane or radon gases are known to be a problem, construction shall comply with the requirements for *soil* gas control in the Supplementary Guidelines.

Section 9.14. Drainage

9.14.1. Scope

9.14.1.1. Application

(1) This Section applies to subsurface drainage and to surface drainage.

9.14.1.2. Crawl Spaces

(1) Drainage for crawl spaces shall conform to Section 9.18.

9.14.1.3. Floors-on-Ground

(1) Drainage requirements beneath floors-on-ground shall conform to Section 9.16.

9.14.2. Foundation Drainage

9.14.2.1. Foundation Wall Drainage

(1) Unless it can be shown to be unnecessary, drainage shall be provided at the bottom of every *foundation* wall that contains the *building* interior.

(2) Except as permitted in Sentences (4), (5) and (6), where the insulation on a *foundation* wall extends to more than 900 mm below the adjacent exterior ground level

(a) a drainage layer shall be installed adjacent to the exterior surface of a *foundation* wall consisting of

(i) not less than 19 mm mineral fibre insulation with a density of not less than 57 kg/m³, or

(ii) not less than 100 mm of free draining granular material, or

(b) a system shall be installed which can be shown to provide equivalent performance to that provided by the materials described in Clause (a).

(3) Where mineral fibre insulation, crushed *rock* or other drainage layer medium is provided adjacent to the exterior surface of a *foundation* wall, it shall extend to the footing level and facilitate drainage of ground water to the *foundation* drainage system.

(4) Except when the insulation provides the drainage layer required in Clause (2)(a), when exterior insulation is provided, the drainage layer shall be installed on the exterior face of the insulation.

(5) The drainage layer required in Sentence (2) is not required

(a) when the *foundation* wall is not required to be dampproofed, or

(b) when the *foundation* wall is waterproofed.

(6) The drainage layer in Sentence (1) is only required where the *foundation* wall is constructed after the day this Regulation comes into force.

(7) Where drainage is required in Sentence (1), the drainage shall conform to Subsection 9.14.3. or 9.14.4.

9.14.3. Drainage Tile and Pipe

9.14.3.1. Material Standards

(1) Drain tile and drain pipe for *foundation* drainage shall conform to

(a) ASTM C 4, "Clay Drain Tile",

(b) ASTM C 412M, "Concrete Drain Tile (Metric)",

(c) ASTM C 444M, "Perforated Concrete Pipe (Metric)",

(d) ASTM C 700, "Vitrified Clay Pipe, Extra Strength, Standard Strength and Perforated",

(e) CAN/CGSB-34.22-M, "Pipe, Asbestos-Cement, Drain",

(f) CAN/CSA-B182.1-M, "Plastic Drain and Sewer Pipe and Pipe Fittings",

(g) CAN3-G401, "Corrugated Steel Pipe Products", or

(h) BNQ 3624-115, "Thermo-Plastic Pipe—Flexible Corrugated Tubing and Fittings for Soil Drainage".

9.14.3.2. Minimum Size

(1) Drain tile or pipe used for *foundation* drainage shall be not less than 100 mm in diam.

9.14.3.3. Installation

(1) Drain tile or pipe shall be laid on undisturbed or well-compacted *soil* so that the top of the tile or pipe is below the bottom of the floor slab or crawl space.

(2) Drain tile or pipe with butt joints shall be laid with 6 mm to 10 mm open joints.

(3) The top half of joints referred to in Sentence (2) shall be covered with sheathing paper, 0.10 mm polyethylene or No.15 asphalt or tar-saturated felt.

(4) The top and sides of drain pipe or tile shall be covered with not less than 150 mm of crushed stone or other coarse clean granular material containing not more than 10% of material that will pass a 4 mm sieve.

9.14.4. Granular Drainage Layer

9.14.4.1. Type of Granular Material

(1) Granular material used to drain the bottom of a *foundation* shall consist of a continuous layer of crushed stone or other coarse clean granular material containing not more than 10% of material that will pass a 4 mm sieve.

9.14.4.2. Installation

(1) Granular material described in Article 9.14.4.1. shall be laid on undisturbed or compacted *soil* to a minimum depth of not less than 125 mm beneath the *building* and extend not less than 300 mm beyond the outside edge of the footings.

9.14.4.3. Grading

(1) The bottom of an *excavation* drained by a granular layer shall be graded so that the entire area described in Article 9.14.4.2. is drained to a sump conforming to Article 9.14.5.2.

9.14.4.4. Wet Site Conditions

(1) Where because of wet site conditions *soil* becomes mixed with the granular drainage material, sufficient additional granular material shall be provided so that the top 125 mm is kept free of *soil*.

9.14.5. Drainage Disposal

9.14.5.1. Drainage Disposal

(1) *Foundation* drains shall drain to a sewer, drainage ditch or dry well.

9.14.5.2. Sump Pits

(1) Where gravity drainage is not practical, a covered sump with an automatic pump shall be installed to discharge the water into a sewer, drainage ditch or dry well.

(2) Covers for sump pits shall be designed to resist removal by children.

9.14.5.3. Dry Wells

(1) Dry wells are permitted to be used only when located in areas where the natural *groundwater* level is below the bottom of the dry well.

(2) Dry wells shall be not less than 5 m from the *building* foundation and located so that drainage is away from the *building*.

9.14.6. Surface Drainage

9.14.6.1. Surface Drainage

(1) The *building* shall be located or the *building* site graded so that water will not accumulate at or near the *building* and will not adversely affect adjacent properties.

9.14.6.2. Drainage away from Wells or Septic Disposal Beds

(1) Surface drainage shall be directed away from the location of a water supply well or septic tank disposal bed.

9.14.6.3. Window Wells

(1) Every window well shall be drained to the footing level or other suitable location.

9.14.6.4. Catch Basin

(1) Where runoff water from a driveway is likely to accumulate or enter a garage, a catch basin shall be installed to provide adequate drainage.

9.14.6.5. Downspouts

(1) Downspouts shall conform to Article 9.26.18.2.

Section 9.15. Footings and Foundations**9.15.1. Scope****9.15.1.1. Application**

(1) Except as provided in Articles 9.15.1.2. and 9.15.1.3. and 9.15.1.4., this Section applies to poured-in-place concrete or unit masonry *foundation* walls and poured-in-place concrete footings on *soils* with an allowable bearing pressure of 75 kPa or greater for *buildings* of wood frame or masonry construction.

(2) Except as provided in Sentences (3) and (4), *foundations* for applications other than as described in Sentence (1) shall be designed in accordance with Section 9.4.

(3) Where a *foundation* is erected on filled ground, peat or sensitive clay, the footing sizes shall be designed in conformance with Section 4.2.

(4) For the purpose of Sentence (3), sensitive clay means the grain size of the majority of the particles is smaller than 0.002 mm, including leda clay.

9.15.1.2. Permafrost

(1) *Buildings* erected on permafrost shall have *foundations* designed by a *designer* competent in this field in accordance with the appropriate requirements of Part 4.

9.15.1.3. Wood-Frame Foundations

(1) *Foundations* of wood frame construction are permitted to be used provided they conform to Sentence (2) or (3).

(2) Except as provided in Sentence (3), wood-frame *foundations* shall be designed in conformance with Part 4.

(3) Wood-frame *foundations* conforming to CAN3-S406, "Construction of Preserved Wood Foundations" need not comply with Sentence (2) provided

(a) they are supported on *soil* having an allowable bearing pressure of not less than 75 kPa, and

(b) their configuration conforms with the design assumptions stated in the standard.

9.15.1.4. Foundations for Deformation Resistant Buildings

(1) Where the superstructure of a detached *building* conforms to the requirements of the deformation resistance test in CAN/CSA-Z240.2.1., "Structural Requirements for Mobile Homes", the *foundation* is permitted to be constructed in conformance with CSA Z240.10.1., "Site Preparation, Foundation and Anchorage of Mobile Homes".

9.15.2. General**9.15.2.1. Concrete**

(1) Concrete shall conform to Section 9.3.

9.15.2.2. Concrete Block

(1) Concrete block shall conform to CAN/CSA-A165.1, "Concrete Masonry Units" and shall have a compressive strength over the net area of the block of not less than 15 MPa.

9.15.2.3. Unit Masonry Construction

(1) Mortar, mortar joints, corbelling and protection for unit masonry shall conform to Section 9.20.

9.15.2.4. Pier Type Foundations

(1) Where pier type *foundations* are used, the piers shall be designed to support the applied loads from the superstructure.

(2) Where piers are used as a *foundation* system in a *building* of 1 storey in *building height*, the piers shall be installed to support the principal framing members and shall be spaced not more than 3.5 m apart along the framing, unless the piers and their footings are designed for larger spacings.

(3) The height of piers described in Sentence (2) shall not exceed 3 times their least dimension at the base of the pier.

(4) Where concrete block is used for piers described in Sentence (2), they shall be laid with cores placed vertically, and when the width of the *building* is 4.3 m or less, placed with their longest dimension at right angles to the longest dimension of the *building*.

9.15.3. Footings**9.15.3.1. Footings Required**

(1) Footings shall be provided under walls, pilasters, columns, piers, fireplaces and *chimneys* that bear on *soil* or *rock*, except that footings are permitted to be omitted under piers or monolithic concrete walls if the safe *loadbearing* capacity of the *soil* or *rock* is not exceeded.

9.15.3.2. Support of Footings

(1) Footings shall rest on undisturbed *soil*, *rock* or compacted granular *fill*.

9.15.3.3. Footing Sizes

(1) Except as provided in Sentences (2) to (8) and in Articles 9.15.3.4. and 9.15.3.5., the minimum footing size shall be as shown in Table 9.15.3.3. provided the length of supported joists does not exceed 4.9 m and the design *live load* on any floor supported by the footing does not exceed 2.4 kPa.

(2) Where the specified *live load* exceeds 2.4 kPa footings shall be designed in accordance with Section 4.2.

(3) Except as provided in Sentence (4), where the span of the supported joists exceeds 4.9 m, footings shall be designed in accordance with Section 4.2.

(4) Where the supported joist span exceeds 4.9 m, footing sizes are permitted to be determined according to the calculation provided in the Supplementary Guidelines.

(5) The strip footing sizes for exterior walls shown in Table 9.15.3.3. shall be increased by 65 mm for each *storey* of masonry veneer over wood frame construction supported by the *foundation* wall.

(6) The strip footing sizes for exterior walls shown in Table 9.15.3.3. shall be increased by 130 mm for each *storey* of masonry construction supported by the *foundation* wall.

(7) The minimum strip footing sizes for interior walls shown in Table 9.15.3.3. shall be increased by 100 mm for each *storey* of masonry construction supported by the footing.

(8) The footing area for column spacings other than shown in Table 9.15.3.3. shall be adjusted in proportion to the distance between columns.

Table 9.15.3.3.

Minimum Footing Sizes

Forming Part of Article 9.15.3.3.

| Floors Supported | Minimum Width of Strip Footings, mm | | Minimum Footing Area for Columns Spaced 3 m o.c. ⁽¹⁾ m ² |
|------------------|-------------------------------------|---------------------------|--|
| | Supporting Exterior Walls | Supporting Interior Walls | |
| 1 | 250 ⁽²⁾ | 200 ⁽³⁾ | 0.4 |
| 2 | 350 ⁽²⁾ | 350 ⁽³⁾ | 0.75 |
| 3 | 450 ⁽²⁾ | 500 ⁽³⁾ | 1.0 |
| Column 1 | 2 | 3 | 4 |

Notes to Table 9.15.3.3.:

- (1) See Sentence 9.15.3.3.(8).
 (2) See Sentences 9.15.3.3.(5) and (6).
 (3) See Sentence 9.15.3.3.(7).

9.15.3.4. High Water Table

(1) Where a *foundation* rests on gravel, sand or silt in which the water table level is less than the width of the footings below the *bearing surface*, the footing width shall be not less than twice the width required by Article 9.15.3.3.

9.15.3.5. Non-Loadbearing Walls

(1) Footings for interior non-loadbearing masonry walls shall be not less than 200 mm wide for walls up to 5.5 m high and shall be increased by 100 mm for each additional 2 700 mm of height.

9.15.3.6. Thickness

(1) Footings shall be not less than 100 mm in thickness except when greater thicknesses are required because of the projection of the footing beyond the supported element.

9.15.3.7. Footing Projection

(1) The projection of an unreinforced footing beyond the supported element shall be not greater than the thickness of the footing.

9.15.3.8. Step Footings

(1) When step footings are used

- (a) the vertical rise between horizontal portions shall not exceed 600 mm, for firm *soils* and 400 mm for sand or gravel, and
 (b) the horizontal distance between risers shall be not less than 600 mm.

9.15.4. Foundation Walls

9.15.4.1. Foundation Wall Thickness

(1) Where average stable *soils* are encountered, the thickness of *foundation* walls subject to lateral earth pressure shall conform to Table 9.15.4.1. for walls not exceeding 2 500 mm in unsupported height.

Table 9.15.4.1.

Thickness of Foundation Walls

Forming Part of Sentence 9.15.4.1.(1)

| Type of Foundation wall | Minimum Wall Thickness, mm | Maximum Height of Finish Ground Above Basement Floor or Crawl space Ground cover, m | |
|--|----------------------------|---|---|
| | | Foundation Wall Laterally Unsupported at the Top ⁽¹⁾ | Foundation Wall Laterally Supported at the Top ⁽¹⁾ |
| Solid concrete 15 MPa min. strength | 150 | 0.80 | 1.50 |
| | 200 | 1.20 | 2.15 |
| | 250 | 1.40 | 2.30 |
| | 300 | 1.50 | 2.30 |
| Solid concrete 20 MPa min. strength | 150 | 0.80 | 1.80 |
| | 200 | 1.20 | 2.30 |
| | 250 | 1.40 | 2.30 |
| | 300 | 1.50 | 2.30 |
| Unit masonry | 140 | 0.60 | 0.80 |
| | 190 | 0.90 | 1.20 |
| | 240 | 1.20 | 1.80 |
| | 290 | 1.40 | 2.20 |
| Column 1 | 2 | 3 | 4 |

Note to Table 9.15.4.1.:

- (1) See Article 9.15.4.2.

9.15.4.2. Lateral Support

(1) For the purposes of Article 9.15.4.1., *foundation* walls shall be considered laterally supported at the top if such walls support solid masonry superstructure or if the floor joists are embedded in the top of the *foundation* walls.

(2) *Foundation* walls shall also be considered to be supported at the top if the floor system is anchored to the top of the *foundation* walls with anchor bolts, in which case the joists are permitted to run either parallel or perpendicular to the *foundation* wall.

(3) When a *foundation* wall contains an opening more than 1 200 mm in length or contains openings in more than 25% of its length, that portion of the wall beneath such openings shall be considered laterally unsupported, unless the wall around the opening is reinforced to withstand the earth pressure.

(4) When the length of solid wall between windows is less than the average length of the windows, the combined length of such windows shall be considered as a single opening for the purposes of Sentence (3).

9.15.4.3. Extension above Ground Level

(1) Exterior *foundation* walls shall extend not less than 150 mm above finished ground level.

9.15.4.4. Reduction in Thickness

(1) Where the top of a *foundation* wall is reduced in thickness to permit the installation of floor joists, the reduced section shall be not more than 350 mm high and not less than 90 mm thick.

(2) Where the top of a *foundation* wall is reduced in thickness to permit the installation of a masonry exterior facing, the reduced section shall be

- (a) not less than 90 mm thick, and
- (b) tied to the facing material with metal ties conforming to Sentence 9.20.9.4.(3) spaced not more than
 - (i) 200 mm o.c. vertically, and
 - (ii) 900 mm o.c. horizontally.

(3) The space between wall and facing described in Sentence (2) shall be filled with mortar.

9.15.4.5. Corbelling

(1) Corbelling of masonry *foundation* walls supporting cavity walls shall conform to Article 9.20.12.2.

9.15.4.6. Crack Control Joints

(1) Crack control joints shall be provided in *foundation* walls more than 25 m long at intervals of not more than 15 m.

(2) Joints required in Sentence (1) shall be designed to resist moisture penetration and shall be keyed to prevent relative displacement of the wall portions adjacent to the joint.

9.15.4.7. Interior Masonry Walls

(1) Interior masonry *foundation* walls not subject to lateral earth pressure shall conform to Section 9.20.

9.15.5. Joist and Beam Support

9.15.5.1. Support of Floor Joists

(1) Except as permitted in Sentence (2), *foundation* walls of hollow unit masonry supporting floor joists shall be

- (a) capped with not less than 50 mm of solid masonry or concrete, or
 - (b) have the top course filled with mortar or concrete.
- (2) Capping required in Sentence (1) is permitted to be omitted
- (a) in localities where termites are not known to occur,
 - (b) when the joists are supported on a wood plate not less than 38 mm by 89 mm, and

(c) when the siding overlaps the *foundation* wall not less than 12 mm.

9.15.5.2. Support of Beams

(1) Not less than a 190 mm depth of solid masonry shall be provided beneath beams supported on masonry.

(2) Where the beam referred to in Sentence (1) is supported below the top of the *foundation* walls, the ends of such beams shall be protected from the weather.

9.15.5.3. Pilasters

(1) Pilasters shall be provided under beams that frame into unit masonry *foundation* walls 140 mm or less in thickness.

(2) Pilasters required in Sentence (1) shall be not less than 90 mm by 290 mm and shall be bonded or tied into the wall.

(3) The top 200 mm of pilasters required in Sentence (1) shall be solid.

9.15.6. Parging and Finishing

9.15.6.1. Foundation Walls below Ground

(1) Concrete block *foundation* walls shall be parged on the exterior face below ground level as required in Section 9.13.

9.15.6.2. Foundation Walls above Ground

(1) Exterior surfaces of concrete block *foundation* walls above ground level shall have tooled joints, or shall be rendered, parged or otherwise suitably finished.

9.15.6.3. Form Ties

(1) All form ties shall be removed at least flush with the concrete surface.

Section 9.16. Slabs-on-Ground

9.16.1. Scope

9.16.1.1. Application

(1) This Section applies to floors supported on ground or granular *fill* which do not provide structural support for the superstructure.

9.16.1.2. Structural Floor Slabs

(1) Floors-on-ground that support loads from the superstructure shall be designed in conformance with Part 4.

9.16.1.3. Required Floors-on-Ground

(1) All spaces within *dwelling* units, except crawl spaces, shall be provided with a floor-on-ground, where

- (a) access is provided to the space, and
- (b) a floor supported by the structure is not provided.

9.16.1.4. Dampproofing and Waterproofing

(1) Dampproofing and waterproofing shall conform to Section 9.13.

9.16.2. Granular Material beneath Floors

9.16.2.1. Required Installation of Granular Fill

(1) Except as provided in Sentence (2), not less than 100 mm of coarse clean granular material containing not more than 10% of

material that will pass a 4 mm sieve shall be placed beneath floors-on-ground.

(2) Granular material need not be installed under

(a) slabs in garages, carports or accessory *buildings*, or

(b) *buildings* of *industrial occupancy* where the nature of the process contained therein permits or requires the use of large openings in the *building* envelope even during the winter.

(3) Any *fill* beneath the top portion of coarse clean granular material referred to in Sentence (1) shall be compacted.

(4) Any *fill* placed beneath slabs in garages other than coarse clean granular material as described in Sentence (1) shall be compacted to provide uniform support for the slab.

9.16.3. Drainage

9.16.3.1. Control of Water Ingress

(1) Except as provided in Article 9.16.3.2. or where it can be shown to be unnecessary, ingress of water underneath a floor-on-ground shall be prevented by grading or drainage.

9.16.3.2. Hydrostatic Pressure

(1) Where *groundwater* levels may cause hydrostatic pressure beneath a floor-on-ground, the floor-on-ground shall be

(a) a cast in place concrete slab, and

(b) designed to resist such pressures.

9.16.3.3. Floor Drains

(1) When floor drains are required, the floor surface shall be sloped so that no water can accumulate.

9.16.4. Concrete

9.16.4.1. Floor Finish

(1) The finished surface of concrete floor slabs shall be trowelled smooth and even.

(2) Dry cement shall not be added to the floor surfaces to absorb surplus water.

9.16.4.2. Compressive Strength

(1) Where dampproofing is not provided the concrete used for floors-on-ground shall have a compressive strength of not less than 25 MPa after 28 days.

(2) Where dampproofing is provided as described in Subsection 9.13.6., the concrete used for floors-on-ground shall have a compressive strength of not less than 15 MPa after 28 days.

9.16.4.3. Topping Course

(1) Where a topping course is provided for a concrete floor slab, it shall consist of 1 part cement to 2.5 parts clean, well graded sand by volume, with a water/cement ratio approximately equal to that of the base slab.

(2) When concrete topping is provided it shall not be less than 20 mm thick.

9.16.4.4. Thickness

(1) Concrete slabs shall be not less than 75 mm thick exclusive of concrete topping.

9.16.4.5. Bond Break

(1) A bond-breaking material shall be placed between the slab and footings or *rock*.

9.16.5. Wood

9.16.5.1. Wood Frame Floors

(1) Floors-on-ground constructed of wood shall conform to CAN/CSA-S406, "Construction of Preserved Wood Foundations".

Section 9.17. Columns

9.17.1. Scope

9.17.1.1. Application

(1) This Section applies to columns used to support carport roofs, and beams carrying loads from not more than 2 wood-frame floors where the length of joists carried by such beams does not exceed 5 m and the *live load* on any floor does not exceed 2.4 kPa.

(2) Columns for applications other than as described in Sentence (1) shall be designed in accordance with Part 4.

9.17.2. General

9.17.2.1. Location

(1) Columns shall be centrally located on a footing conforming to Section 9.15.

9.17.2.2. Fastening

(1) Columns shall be securely fastened to the supported member to prevent lateral movement.

9.17.3. Steel Columns

9.17.3.1. Size and Thickness

(1) Except as permitted in Sentence (2), steel pipe columns shall have an outside diameter of not less than 73 mm and a wall thickness of not less than 4.76 mm.

(2) Columns of sizes other than as specified in Sentence (1) are permitted to be used where the *loadbearing* capacities are shown to be adequate.

9.17.3.2. End Bearing Plates

(1) Except as permitted in Sentence (2), steel columns shall be fitted with not less than 100 mm by 100 mm by 6.35 mm thick steel plates at each end, and where the column supports a wooden beam, the top plate shall extend across the full width of the beam.

(2) The top plate required in Sentence (1) need not be provided where a column supports a steel beam and provision is made for the attachment of the column to the beam.

9.17.3.3. Paint

(1) Steel columns shall be treated on the outside surface with not less than 1 coat of rust-inhibitive paint.

9.17.3.4. Adjustable Steel Columns

(1) Adjustable steel columns shall conform to CAN/CGSB-7.2-M, "Adjustable Steel Columns".

9.17.4. Wood Columns**9.17.4.1. Column Sizes**

(1) The width or diameter of a wood column shall be not less than the width of the supported member.

(2) Except as provided in Article 9.35.4.2., columns shall be not less than 184 mm for round columns and 140 mm by 140 mm for rectangular columns, unless calculations are provided to show that lesser sizes are adequate.

9.17.4.2. Materials

- (1) Wood columns shall be either solid, glue-laminated or built-up.
- (2) Built-up columns shall consist of not less than 38 mm thick full-length members
 - (a) bolted together with not less than 9.52 mm diam bolts spaced not more than 450 mm o.c., or
 - (b) nailed together with not less than 76 mm nails spaced not more than 300 mm o.c.
- (3) Glued-laminated columns shall conform to Section 4.3.

9.17.4.3. Columns In Contact with Concrete

(1) Wood columns shall be separated from concrete in contact with the ground by 0.05 mm polyethylene film or Type S roll roofing.

9.17.4.4. Wood Column Termite Protection

- (1) Where termites are known to exist, exterior wood columns such as porch supports shall be
 - (a) pressure treated with a chemical that is toxic to such termites, in accordance with Article 9.3.2.9., or
 - (b) supported on non-cellulosic material extending not less than 150 mm above grade and located not less than 50 mm from the exterior wall of an adjacent building.

9.17.5. Unit Masonry Columns**9.17.5.1. Materials**

- (1) Unit masonry columns shall be built of masonry units
 - (a) conforming to CAN/CSA-A165.1, "Concrete Masonry Units", and
 - (b) have a compressive strength over the net area of the block of not less than 15 MPa.

9.17.5.2. Sizes

(1) Unit masonry columns shall be not less than 290 mm by 290 mm or 240 mm by 380 mm in size.

9.17.6. Solid Concrete Columns**9.17.6.1. Materials**

(1) Concrete shall conform to Section 9.3.

9.17.6.2. Sizes

(1) Concrete columns shall be not less than 200 mm by 200 mm for rectangular columns and 230 mm diam for circular columns.

Section 9.18. Crawl Spaces**9.18.1. General****9.18.1.1. Application**

(1) In this Section a crawl space refers to an enclosed space between the underside of a floor assembly and the ground cover directly below, with a clearance less than 1 800 mm in height.

9.18.1.2. Foundations

(1) Foundations enclosing crawl spaces shall conform to Section 9.15.

9.18.1.3. Heated and Unheated Crawl Spaces

- (1) Crawl spaces shall be considered to be heated where the space
 - (a) is used as a hot air plenum,
 - (b) contains heating ducts or heating pipes that are not sealed and insulated to minimize heat loss to the space, or
 - (c) is not separated from heated space in accordance with Section 9.25.

(2) Heating of heated crawl spaces shall conform to Section 9.33.

(3) Insulation, an *air barrier system* and a vapour barrier shall be installed in the walls of heated crawl spaces in accordance with Section 9.25.

9.18.2. Access**9.18.2.1. Access Openings**

(1) An access opening of not less than 500 mm by 700 mm shall be provided to each crawl space where the crawl space serves a single dwelling unit, and not less than 550 mm by 900 mm for other crawl spaces.

(2) Access openings shall be fitted with a door or hatch, except when the crawl space is heated and the access opening into the crawl space is from the adjacent heated space.

9.18.3. Ventilation**9.18.3.1. Ventilation of Unheated Crawl Spaces**

(1) Unheated crawl spaces shall be ventilated by natural or mechanical means.

(2) Where an unheated crawl space is ventilated by natural means, ventilation shall be provided to the outside air by not less than 0.1 m² of unobstructed vent area for every 50 m² of floor area.

(3) Vents shall be

(a) uniformly distributed on opposite sides of the *building*, and

(b) designed to prevent the entry of snow, rain and insects.

9.18.3.2. Ventilation of Heated Crawl Spaces

(1) Heated crawl spaces shall be ventilated in accordance with Section 9.32.

9.18.4. Clearance

9.18.4.1. Access Way to Services

(1) Where equipment requiring service such as plumbing cleanouts, traps and burners is located in crawl spaces, an access way with a height and width of not less than 600 mm shall be provided from the access door to the equipment and for a distance of 900 mm on the side or sides of the equipment to be serviced.

9.18.5. Drainage

9.18.5.1. Drainage

(1) Except where it can be shown to be unnecessary, the ingress of water into a crawl space shall be controlled by grading or drainage.

(2) Drainage of *foundation* walls shall conform to Article 9.14.2.1.

(3) Drainage of the ground cover or floor-on-ground in the crawl space shall conform to Article 9.16.3.1.

(4) Drains shall conform to Section 9.14.

9.18.6. Ground Cover

9.18.6.1. Ground Cover In Unheated Crawl Spaces

(1) Where a crawl space is unheated, a ground cover shall be provided consisting of not less than

(a) 50 mm of asphalt paving material,

(b) 100 mm of 15 MPa Portland cement concrete,

(c) Type S roll roofing, or

(d) 0.10 mm polyethylene.

(2) Joints in sheet-type ground cover required in Sentence (1) shall be lapped not less than 100 mm and weighted down.

9.18.6.2. Ground Cover In Heated Crawl Spaces

(1) Where a crawl space is heated, a ground cover consisting of not less than 0.15 mm polyethylene sheet conforming to CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet, for Use in Building Construction" shall be provided.

(2) Joints in the ground cover required in Sentence (1) shall be lapped not less than 300 mm, and

(a) sealed and weighted down, or

(b) covered with a concrete skim coat not less than 50 mm thick.

(3) The perimeter of the ground cover required in Sentence (1) shall be sealed to the *foundation* wall.

9.18.7. Fire Protection

9.18.7.1. Crawl Spaces as Warm Air Plenums

(1) Only Crawl spaces under 1-storey portions of *dwelling units* shall be used as warm-air *plenums*.

(2) Enclosing material in crawl spaces described in Sentence (1) including insulation shall have a surface *flame-spread rating* not greater than 150.

(3) *Combustible* ground cover used as enclosing material in Sentence (2) shall be covered with *noncombustible* material.

Section 9.19. Roof Spaces

9.19.1. Venting

9.19.1.1. Required Venting

(1) Except where it can be shown to be unnecessary, where insulation is installed between a ceiling and the underside of the roof sheathing, a space shall be provided between the insulation and the sheathing, and vents shall be installed to permit the movement of air from the space to the exterior.

9.19.1.2. Vent Requirements

(1) Except as provided in Sentence (2), the unobstructed vent area shall be not less than 1/300 of the insulated ceiling area.

(2) Where the roof slope is less than 1 in 6 or in roofs that are constructed with roof joists, the unobstructed vent area shall be not less than 1/150 of the insulated ceiling area.

(3) Required vents are permitted to be roof type, eave type, gable-end type or any combination thereof, and shall be distributed

(a) uniformly on opposite sides of the *building*,

(b) with not less than 25% of the required openings located at the top of the space, and

(c) with not less than 25% of the required openings located at the bottom of the space.

(4) Except where each roof joist space referred to in Sentence (2) is separately vented, roof joist spaces shall be interconnected by installing purlins not less than 38 mm by 38 mm on the top of the roof joists.

(5) Vents shall be designed to prevent the entry of rain, snow and insects.

(6) The unobstructed vent area required in Sentences (1) and (2) shall be determined in conformance with CAN3-A93, "Natural Airflow Ventilators for Buildings".

9.19.1.3. Clearances

(1) Where venting is provided to a roof joist space, not less than 63 mm of space shall be provided between the top of the insulation and the underside of the roof sheathing.

(2) Ceiling insulation shall be installed in a manner which will not restrict a free flow of air through roof vents or through any portion of the *attic* or *roof space*.

9.19.1.4. Mansard or Gambrel Roof

(1) The lower portion of a mansard or gambrel style roof need not be ventilated.

(2) The upper portion of roofs described in Sentence (1) shall be ventilated in conformance with the requirements in Articles 9.19.1.1. to 9.19.1.3.

9.19.2. Access**9.19.2.1. Access**

(1) Every *attic or roof space* shall be provided with an access hatch where the *attic or roof space* measures

- (a) not less than 10 m², in area,
- (b) not less than 1 000 mm in length or width, and
- (c) not less than 600 mm in height over at least the area described in Clauses (a) and (b).

(2) The hatch required in Sentence (1) shall be not less than 550 mm by 900 mm except that, where the hatch serves not more than one *dwelling unit*, the hatch is permitted to be reduced to 500 mm by 700 mm.

(3) Hatchways to *attic or roof spaces* shall be fitted with doors or covers.

Section 9.20. Above-Grade Masonry**9.20.1. Scope****9.20.1.1. Application**

(1) Except as provided in Article 9.20.1.2., this Section applies to unreinforced masonry and masonry veneer in which the wall height above the *foundation* wall does not exceed 11 m, and in which the roof or floor system above the *first storey* is not of concrete construction.

(2) For *buildings* other than described in Sentence (1), or where the masonry is designed on the basis of design loads and allowable stresses, Subsection 4.3.2. shall apply.

9.20.1.2. Earthquake Reinforcement

(1) In velocity- or acceleration-related seismic zones, of 4 or greater, *loadbearing* elements of masonry *buildings* more than 1 *storey* in *building height* shall be reinforced with at least the minimum amount of reinforcement as required in Subsection 9.20.15.

(2) In velocity- or acceleration-related seismic zones, of 2 and 3, *loadbearing* elements of masonry *buildings* 3 *storeys* in *building height* shall be reinforced with at least the minimum amount of reinforcement as required in Subsection 9.20.15.

9.20.2. Masonry Units**9.20.2.1. Masonry Unit Standards**

(1) Masonry units shall comply with

- (a) ASTM C 126, "Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units",

(b) ASTM C 212, "Structural Clay Facing Tile",

(c) CAN/CSA-A82.1, "Burned Clay Brick (Solid Masonry Units Made from Clay or Shale)",

(d) CSA A82.3-M, "Calcium Silicate (Sand-Lime) Building Brick",

(e) CSA A82.4-M, "Structural Clay Load-Bearing Wall Tile",

(f) CSA A82.5-M, "Structural Clay Non-Load-Bearing Tile",

(g) CAN3 A82.8-M, "Hollow Clay Brick",

(h) CAN/CSA-A165.1, "Concrete Masonry Units",

(i) CAN/CSA-A165.2, "Concrete Brick Masonry Units",

(j) CAN/CSA-A165.3, "Prefaced Concrete Masonry Units", or

(k) CAN3-A165.4-M, "Autoclaved Cellular Units".

9.20.2.2. Used Brick

(1) Used bricks shall be free of old mortar, soot or other surface coating and shall conform to Article 9.20.2.1.

9.20.2.3. Glass Blocks

(1) Glass blocks shall not be used as *loadbearing* units or in the construction of fireplaces or *chimneys*.

9.20.2.4. Cellular Concrete

(1) Masonry made with cellular concrete shall not be used in contact with the *soil* or exposed to the weather.

9.20.2.5. Stone

(1) Stone shall be sound and durable.

9.20.2.6. Concrete Units Exposed to the Weather

(1) Concrete units exposed to the weather shall have weight and water absorption characteristics conforming to Classes A, B or C, described in CAN/CSA-A165.1, "Concrete Masonry Units".

(2) Where cellular concrete blocks are used in situations described in Sentence (1), allowance shall be made in the design for the shrinkage characteristics of the units to be used.

9.20.2.7. Compressive Strength

(1) The compressive strength of masonry units shall conform to Table 9.20.2.7.

Table 9.20.2.7.**Compressive Strength of Concrete Masonry Units**

Forming Part of Sentence 9.20.2.7.(1)

| Type of Unit | Minimum Compressive Strength Over Net Area, MPa | |
|--|---|------------------------|
| | Exposed to Weather | Not Exposed to Weather |
| Solid or hollow concrete units | 15 | 10 |
| Solid <i>loadbearing</i> cellular units | Not permitted | 5 |
| Solid non- <i>loadbearing</i> cellular units | Not permitted | 2 |
| Column 1 | 2 | 3 |

9.20.3. Mortar

(3) Lime used in mortar shall be hydrated.

9.20.3.1. Mortar Materials

(1) Cementitious materials and aggregates for mortar shall comply with

- (a) ASTM C 5, "Quicklime for Structural Purposes",
- (b) ASTM C 207, "Hydrated Lime for Masonry Purposes",
- (c) CAN/CSA-A5, "Portland Cement",
- (d) CAN/CSA-A8, "Masonry Cement", or
- (e) CSA A82.56-M, "Aggregate for Masonry Mortar".

(2) Water and aggregate shall be clean and free of significant amounts of deleterious materials.

(4) If lime putty is used in mortar, it shall be made by slaking quicklime in water for not less than 24 h or soaking hydrated lime in water for not less than 12 h.

9.20.3.2. Mortar Mixes

(1) Except as provided in Sentences (3) and (4), mortar mixes shall conform to Table 9.20.3.2.

(2) Mortar containing portland cement shall not be used later than 2.5 h after mixing.

(3) Mortar for sand-lime brick and concrete brick is permitted to consist of 1 part masonry cement to not less than 3 or not more than 3.5 parts of aggregate by volume in addition to those mixes permitted in Table 9.20.3.2.

Table 9.20.3.2.**Mortar Mix Proportions (By Volume)**

Forming Part of Sentence 9.20.3.2.(1)

| Permissible Use of Mortar | Portland Cement | Masonry Cement | Lime | Aggregate |
|---|-----------------|----------------|------------------|--|
| All locations but not for use with sand-lime or concrete brick | 0.5 to 1 1 | 1 — | — 0.25 to 0.5 | Not less than 2.25 and not more than 3 times the sum of the volumes of the cement and the lime |
| All locations except <i>foundation</i> walls and piers, but not for use with sand-lime or concrete brick | — 1 | 1 — | — 0.5 to 1.25 | |
| All locations except <i>loadbearing</i> walls of hollow units, parapet walls and <i>chimneys</i> | 1 | — | 1.25 to 2.5 | |
| All non- <i>loadbearing</i> interior walls and all <i>loadbearing</i> walls of solid units, except <i>foundation</i> walls, parapet walls and <i>chimneys</i> | 1 — | — — | 2.25 to 4 1 | |
| Column 1 | 2 | 3 | 4 | 5 |

(4) Mortar for glass block shall consist of 1 part portland cement and 1 part hydrated lime to not more than 4 parts aggregate by volume.

foundations of wood frame constructed in conformance with Sentence 9.15.1.3.(3).**9.20.4. Mortar Joints**

(2) Every masonry wall shall be at least as thick as the wall it supports, except as otherwise permitted in Article 9.20.12.2.

9.20.4.1. Thickness

(1) Except as provided in Sentence (2), mortar joint thickness for burned clay brick and concrete masonry units shall be 10 mm.

(2) Permitted tolerances in head and bed joints shall be -5 mm to +10 mm.

9.20.5.2. Lintels or Arches

(1) Masonry over openings shall be supported by steel, reinforced concrete lintels or masonry arches designed to support the imposed loads.

9.20.4.2. Solid Masonry Units

(2) Except as permitted in Sentence (2), steel angle lintels supporting masonry above openings shall conform to Table 9.20.5.2.A.

9.20.4.3. Hollow Masonry Units

(1) Hollow masonry units shall be laid with mortar applied to head and bed joints of both inner and outer face shells.

(3) Steel angle lintels supporting masonry veneer above openings shall conform to Table 9.20.5.2.B.

9.20.5. Masonry Support

(4) Steel lintels described in Sentences (2) and (3) shall have even and level bearing and shall have not less than 150 mm length of bearing at end supports.

9.20.5.1. Masonry Support

(1) All masonry shall be supported on masonry, concrete or steel, except that masonry veneer walls are permitted to be supported on

(5) Steel angle lintels supporting masonry shall be prime painted or otherwise protected from corrosion.

Table 9.20.5.2.A.

Loose Steel Lintels for Masonry—No. & Size of Angles Required⁽⁷⁾

Forming Part of Sentence 9.20.5.2.(2)

| Clear Span ⁽¹⁾⁽³⁾ | Exterior Angles | | Wall Thickness, mm | Interior Angles | | | | | | |
|------------------------------|-----------------|-----------------------------|--------------------|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | for Brick | for Stone | | Maximum Floor Loads per Metre of Span in Newtons ⁽²⁾⁽⁴⁾⁽⁵⁾ | | | | | | |
| | 100 mm | 100 mm + 50 mm stone facing | | | | | | | | |
| | No Floor Load | | | None | 3 650 | 7 300 | 10 950 | 14 600 | 18 250 | 21 900 |
| 1 200 mm or less | L-90 x 90 x 6 | L-125 x 90 x 8 | 203 | L-90 x 90 x 6 | L-90 x 90 x 6 | L-90 x 90 x 8 | L-100 x 90 x 8 | L-125 x 90 x 8 | L-125 x 90 x 10 | L-125 x 90 x 13 |
| | | | 305 | 2Ls-90 x 90 x 8 | 2Ls-90 x 90 x 8 | 2Ls-90 x 90 x 8 | 2Ls-90 x 90 x 8 | 2Ls-90 x 90 x 8 | 2Ls-100 x 90 x 8 | 2Ls-100 x 90 x 8 |
| 1 500 mm | L-90 x 90 x 8 | L-125 x 90 x 8 | 203 | L-90 x 90 x 8 | L-90 x 90 x 8 | L-125 x 90 x 8 | L-125 x 90 x 10 | L-125 x 90 x 13 | L-150 x 90 x 10 | — — — |
| | | | 305 | 2Ls-90 x 90 x 8 | 2Ls-90 x 90 x 8 | 2Ls-90 x 90 x 8 | 2Ls-125 x 90 x 8 | 2Ls-125 x 90 x 8 | 2Ls-125 x 90 x 8 | 2Ls-125 x 90 x 10 |
| 1 800 mm | L-100 x 90 x 8 | L-125 x 125 x 8 | 203 | L-100 x 90 x 8 | L-125 x 90 x 8 | L-125 x 90 x 8 | L-150 x 100 x 10 | | | |
| | | | 305 | 2Ls-100 x 90 x 8 | 2Ls-100 x 90 x 8 | 2Ls-125 x 90 x 8 | 2Ls-125 x 90 x 8 | 2Ls-125 x 90 x 10 | 2Ls-150 x 100 x 10 | 2Ls-150 x 100 x 10 |
| 2 100 mm | L-100 x 90 x 8 | L-125 x 125 x 8 | 203 | L-100 x 90 x 8 | L-125 x 90 x 10 | L-150 x 100 x 10 | | | | |
| | | | 305 | 2Ls-100 x 90 x 8 | 2Ls-125 x 90 x 10 | 2Ls-125 x 90 x 10 | 2Ls-150 x 100 x 10 | 2Ls-150 x 100 x 10 | | |
| 2 400 mm | L-125 x 90 x 8 | L-125 x 125 x 8 | 203 | L-125 x 90 x 8 | L-150 x 100 x 10 | | | | | |
| | | | 305 | 2Ls-125 x 90 x 8 | 2Ls-125 x 90 x 13 | 2Ls-150 x 100 x 10 | | | | |
| 2 700 mm | L-125 x 90 x 10 | L-125 x 125 x 10 | 203 | L-125 x 90 x 10 | | | | | | |
| | | | 305 | 2Ls-125 x 150 x 10 | 2Ls-150 x 100 x 10 | | | | | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

| | | | | | | | | | | |
|----------|---------------------|---------------------|-----|--------------------------|---|---|---|---|----|----|
| 3 000 mm | L-150 x 100 x 10 | L-125 x 125 x 13 | 203 | L-150 x 100 x 10 | | | | | | |
| | | | 305 | 2Ls-150 x 100 x 10 | | | | | | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

Notes to Table 9.20.5.2.

- (1) See Sentence 9.20.5.2.(a).
- (2) Omit floor load in lintel when distance to bottom of floor construction is greater than width of opening.
- (3) Interior and exterior angles in 200 mm walls and interior angles in 300 mm walls are bolted together when clear span is over 1 800 mm.
- (4) When masonry lighter than brick is used over interior angles floor load may be increased by the difference in weight per square metre times the width of the opening. Not generally available.
- (5) Interior angles have been designed for floor load plus brick masonry of height equal to width of opening.
- (6) $f_s = 138$ MPa.
Deflection maximum = $1/700$ span.
- (7) The figures in the Table indicating wall thickness and angle cross-section are in mm.

Table 9.20.5.2.B.

**Maximum Allowable Spans for Steel Lintels
Supporting Masonry Veneer, m**

Forming Part of Sentence 9.20.5.2.(3)

| Minimum Angle Size, mm | | | 70 mm Brick | 90 mm Brick | 100 mm Stone |
|------------------------|-------------------|-----------|----------------|----------------|-----------------|
| Vertical Leg | Horizontal Leg | Thickness | | | |
| 90 | 75 | 6 | 2.55 | — | — |
| 90 | 90 | 6 | 2.59 | 2.47 | 2.30 |
| 100 | 90 | 6 | 2.79 | 2.66 | 2.48 |
| 125 | 90 | 8 | 3.47 | 3.31 | 3.08 |
| 125 | 90 | 10 | 3.64 | 3.48 | 3.24 |
| Column 1 | 2 | 3 | 4 | 5 | 6 |

9.20.6. Thickness and Height**9.20.6.1. Thickness of Exterior Walls**

(1) Masonry exterior walls, other than cavity walls, in 1 storey buildings and the top storeys of 2- and 3-storey buildings shall be not less than 140 mm thick provided the walls are not more than 2 800 mm high at the eaves and 4.6 m high at the peaks of gable ends.

(2) The exterior walls of the bottom storeys of 2 storey buildings, and exterior walls of the bottom 2 storeys of 3 storey buildings shall be not less than 190 mm thick.

(3) In exterior walls composed of more than one wythe, each wythe shall be not less than 90 mm thick.

9.20.6.2. Cavity Walls

(1) Cavity walls shall be made with not less than 90 mm wide units if the joints are raked and not less than 75 mm wide units if the joints are not raked.

(2) The width of a cavity in a cavity wall shall be not less than 50 mm nor greater than 150 mm.

(3) The minimum thickness of cavity walls above the supporting base shall be 230 mm for the top 7.6 m and 330 mm for the remaining portion, except that where 75 mm wide units are used, the wall height above the top of the foundation wall shall not exceed 6 m.

9.20.6.3. Thickness of Interior Walls

(1) The thickness of loadbearing interior walls shall be determined on the basis of the maximum lateral support spacing as provided in Sentences 9.20.10.1.(2) and (3).

(2) The thickness of interior non-loadbearing walls shall be

(a) determined on the basis of the maximum lateral support spacing as provided in Sentences 9.20.10.1.(2) and (3), and

(b) in any case not less than 65 mm.

9.20.6.4. Masonry Veneer Walls

(1) Except for masonry veneer individually supported by the back-up material, masonry veneer shall be of solid units not less than 70 mm thick.

(2) Veneer described in Sentence (1) over wood-frame walls shall have not less than a 25 mm air space behind the veneer.

(3) Masonry veneer less than 90 mm thick shall have unraked joints.

(4) Masonry veneer individually supported by the back-up material shall conform to Subsection 4.3.2.

9.20.6.5. Parapet Walls

(1) The height of parapet walls above the adjacent roof surface shall be not more than 3 times the parapet wall thickness.

(2) Parapet walls shall be solid from the top of the parapet to not less than 300 mm below the adjacent roof level.

9.20.6.6. Stone or Concrete Facings

(1) Limestone slab facings and precast concrete panel facings shall conform to Subsection 4.3.2.

9.20.7. Chases and Recesses**9.20.7.1. Maximum Dimensions**

(1) Except as permitted in Sentence 9.20.7.2.(2) and Article 9.20.7.4., the depth of any chase or recess shall not exceed one third the thickness of the wall, and the width of the chase or recess shall not exceed 500 mm.

9.20.7.2. Minimum Wall Thickness

(1) Except as permitted in Sentence (2) and Article 9.20.7.4., no chase or recess shall be constructed in any wall 190 mm or less in thickness.

(2) Recesses may be constructed in 190 mm walls provided they do not exceed 100 mm in depth, 750 mm in height and 500 mm in width.

9.20.7.3. Separation of Chases and Recesses

(1) Chases and recesses shall be not less than

- (a) 4 times the wall thickness apart measured from centre to centre, and
- (b) not less than 600 mm away from any pilaster, cross wall, buttress or other vertical element providing required lateral support for the wall.

9.20.7.4. Non-Conforming Chases or Recesses

(1) Chases or recesses that do not conform to the limits specified in Articles 9.20.7.1. to 9.20.7.3. shall be considered as openings, and any masonry supported above such a chase or recess shall be supported by a lintel or arch as provided in Article 9.20.5.2.

9.20.7.5. Chases or Recesses Cut into Walls

(1) Chases or recesses shall not be cut into walls made with hollow units after the masonry units are in place.

9.20.8. Support of Loads

9.20.8.1. Capping of Hollow Masonry Walls

(1) Except as permitted in Sentence (2), *loadbearing* walls of hollow masonry units supporting roof or floor framing members shall be capped with not less than 50 mm of solid masonry or have the top course filled with concrete.

(2) Capping required in Sentence (1) may be omitted where the roof framing is supported on a wood plate not less than 38 mm by 89 mm.

9.20.8.2. Cavity Walls Supporting Framing Members

(1) Floor joists supported on cavity walls shall be supported on solid units not less than 57 mm high.

(2) Floor joists described in Sentence (1) shall not project into the cavity.

(3) Roof and ceiling framing members bearing on cavity walls shall be supported on

- (a) not less than 57 mm of solid masonry, bridging the full thickness of the wall, or
- (b) a wood plate not less than 38 mm thick, bearing not less than 50 mm on each wythe.

9.20.8.3. Bearing of Beams and Joists

(1) The bearing area under beams and joists shall be sufficient to carry the supported load.

(2) In no case shall the minimum length of end bearing of beams supported on masonry be less than 90 mm.

(3) The length of end bearing of floor, roof or ceiling joists supported on masonry shall be not less than 40 mm.

9.20.8.4. Support of Beams and Columns

(1) Beams and columns supported on masonry walls shall be supported on pilasters where the thickness of the masonry wall or wythe is less than 190 mm.

(2) Not less than 190 mm depth of solid masonry or concrete shall be provided under the beam or column referred to in Sentence (1).

(3) Pilasters required in Sentence (1) shall be bonded or tied to masonry walls.

(4) Concrete pilasters required in Sentence (1) shall be not less than 50 mm by 300 mm.

(5) Unit masonry pilasters required in Sentence (1) shall be not less than 100 mm by 290 mm.

9.20.8.5. Distance to Edge of Supporting Members

(1) Masonry veneer of hollow units resting on bearing support shall not project more than

- (a) 30 mm beyond the supporting base where the veneer is not less than 90 mm thick, and
- (b) 12 mm beyond the supporting base where the veneer is less than 90 mm thick.

(2) Masonry veneer of solid units resting on bearing support shall not project more than one third of the width of the veneer.

(3) Where the masonry veneer described in Sentence (2) is rough stone masonry

- (a) the projection shall be measured as the average projection of the units, and
- (b) the width of the veneer shall be measured as the average width of the veneer.

9.20.9. Bonding and Tying

9.20.9.1. Joints to be Offset or Reinforced

(1) Vertical joints in adjacent masonry courses shall be offset unless each wythe of masonry is reinforced with the equivalent of not less than 2 corrosion-resistant steel bars of 3.76 mm diam placed in the horizontal joints at vertical intervals not exceeding 460 mm.

(2) Where joints in the reinforcing referred to in Sentence (1) occur, the bars shall be lapped not less than 150 mm.

9.20.9.2. Bonding or Tying of Other than Masonry Veneer

(1) Masonry walls, other than masonry veneer walls, that consist of 2 or more wythes shall have the wythes bonded or tied together with masonry bonding units as described in Article 9.20.9.3. or with metal ties as described in Articles 9.20.9.4.

9.20.9.3. Bonding

(1) Where wythes are bonded together with masonry units, the bonding units shall comprise not less than 4 per cent of the wall surface area.

(2) Bonding units described in Sentence (1) shall be spaced not more than 600 mm vertically and horizontally in the case of brick masonry and 900 mm o.c. in the case of block or tile.

(3) Units described in Sentence (1) shall extend not less than 90 mm into adjacent wythes.

9.20.9.4. Tying

(1) Where 2 or more wythes are tied together with metal ties of the individual rod type, the ties shall conform to the requirements in Sentences (3) to (6).

(2) Other ties may be used where it can be shown that such ties provide walls that are at least as strong and as durable as those made with the individual rod type.

(3) Metal ties of the individual rod type shall

- (a) be corrosion-resistant,
 - (b) have a minimum cross-sectional area of not less than 17.8 mm², and
 - (c) have not less than a 50 mm portion bent at right angles at each end.
- (4) Metal ties of the individual rod type shall
- (a) extend from within 25 mm of the outer face of the wall to within 25 mm of the inner face of the wall,
 - (b) be completely embedded in mortar except for the portion exposed in cavity walls, and
 - (c) be staggered from course to course.

(5) Where 2 or more wythes in walls other than cavity walls and masonry veneer/masonry back-up walls are tied together with metal ties of the individual rod type, the space between wythes shall be completely filled with mortar.

(6) Ties described in Sentence (5) shall be

- (a) located within 300 mm of openings and spaced not more than 900 mm apart around openings, and
- (b) spaced not more than 900 mm apart horizontally and 460 mm apart vertically at other locations.

(7) Except as required in Sentences (8) and (9), where the inner and outer wythes of cavity walls are tied with individual wire ties, the ties shall be spaced not more than 900 mm apart horizontally and 400 mm apart vertically.

(8) Within 100 mm of the bottom of each floor or roof assembly where the cavity extends below the assemblies, the ties described in Sentence (7) shall be spaced not more than 600 mm apart horizontally.

(9) Within 300 mm of any openings, the ties described in Sentence (7) shall be spaced not more than 900 mm apart.

9.20.9.5. Ties for Masonry Veneer

(1) Masonry veneer 70 mm or more in thickness and resting on a bearing support shall be tied to masonry back-up or to wood framing members with straps that are

- (a) corrosion-resistant,
- (b) not less than 0.76 mm thick,
- (c) not less than 22 mm wide,
- (d) shaped to provide a key with the mortar, and

(e) spaced in accordance with Table 9.20.9.5.

Table 9.20.9.5.**Veneer Tie Spacing**

Forming Part of Sentence 9.20.9.5.(1)

| Maximum Vertical Spacing, mm | Maximum Horizontal Spacing, mm |
|------------------------------|--------------------------------|
| 400 | 800 |
| 500 | 600 |
| 600 | 400 |
| Column 1 | 2 |

(2) The straps described in Sentence (1) which are fastened to the wood framing members shall be

- (a) bent at a right angle within 6 mm from the fastener, and
- (b) fastened with corrosion resistant 3.18 mm diam. screws, or spiral nails having a wood penetration of not less than 30 mm.

(3) Masonry veneer individually supported by masonry or wood-frame back-up shall be secured to the back-up in conformance with Subsection 4.3.2.

(4) The straps described in Sentence (1) may be installed against one of the sheathings listed in Table 9.23.16.2.A. provided that

- (a) the tie is in contact with the exterior surface of the sheathing, and
- (b) the sheathing beneath the tie is not compressed.

9.20.9.6. Reinforcing for Glass Block

(1) Glass block shall have horizontal joint reinforcement of 2 corrosion-resistant bars of not less than 3.76 mm or expanded metal strips not less than 75 mm wide

- (a) spaced at vertical intervals of not more than 600 mm for units 190 mm or less in height, and
- (b) installed in every horizontal joint for units higher than 190 mm.

(2) Reinforcement required in Sentence (1) shall be lapped not less than 150 mm.

9.20.10. Lateral Support**9.20.10.1. Lateral Support Required**

(1) Masonry walls shall be laterally supported by floor or roof construction or by intersecting masonry walls or buttresses.

(2) The maximum spacing of supports required in Sentence (1) shall be not less than

- (a) 20 times the wall thickness for all *loadbearing* walls and exterior non-*loadbearing* walls, and
- (b) 36 times the wall thickness for interior non-*loadbearing* walls.

(3) In applying Sentence (2), the thickness of cavity walls shall be taken as the greater of

- (a) two-thirds of the sum of the thicknesses of the wythes, or
- (b) the thickness of the thicker wythe.

(4) Floor and roof constructions providing lateral support for walls as required in Sentence (1) shall be constructed to transfer lateral loads to walls or buttresses approximately at right angles to the laterally supported walls.

9.20.11. Anchorage of Roofs, Floors and Intersecting Walls

9.20.11.1. Anchorage of Floor or Roof Assemblies

(1) Where required to receive lateral support, masonry walls shall be anchored to each floor or roof assembly at maximum intervals of 2 m, except that anchorage of floor joists not more than 1 m above grade may be omitted.

(2) Anchors required in Sentence (1) shall be corrosion-resistant and be not less than the equivalent of 40 mm by 4.76 mm thick steel straps.

(3) Anchors required in Sentence (1) shall be shaped to provide a mechanical key with the masonry and shall be securely fastened to the horizontal support to develop the full strength of the tie.

(4) When joists are parallel to the wall, anchors required in Sentence (1) shall extend across not less than 3 joists.

9.20.11.2. Bonding and Tying of Intersecting Walls

(1) Where required to provide lateral support, intersecting walls shall be bonded or tied together.

(2) Where bonding is used to satisfy the requirements of Sentence (1), 50% of the adjacent masonry units in the intersecting wall, distributed uniformly over the height of the intersection, shall be imbedded in the laterally supported wall.

(3) Where tying is used to satisfy the requirements of Sentence (1), the ties shall be

- (a) corrosion-resistant metal,
- (b) equivalent to not less than 4.76 mm by 40 mm steel strapping,
- (c) spaced not more than 800 mm o.c. vertically, and
- (d) shaped at both ends to provide sufficient mechanical key to develop the strength of the ties.

9.20.11.3. Wood Frame Walls Intersecting Masonry Walls

(1) Wood-frame walls shall be tied to intersecting masonry walls with not less than 4.76 mm diam corrosion-resistant steel rods spaced not more than 900 mm o.c. vertically.

(2) Ties required in Sentence (1) shall be anchored to the wood framing at one end and shaped to provide a mechanical key at the other end to develop the strength of the tie.

9.20.11.4. Wood Frame Roof Systems

(1) Except as permitted in Sentence (2), roof systems of wood-frame construction shall be tied to exterior walls by not less than 12.7 mm diam anchor bolts

- (a) spaced not more than 2 400 mm apart,
- (b) embedded not less than 90 mm into the masonry, and

(c) fastened to a rafter plate of not less than 38 mm thick lumber.

(2) The roof system described in Sentence (1) is permitted to be anchored by nailing the wall furring strips to the side of the rafter plate.

9.20.11.5. Cornices, Sills and Trim

(1) Cornices, sills or other trim of masonry material which project beyond the wall face shall have not less than 65% of their mass, but not less than 90 mm, within the wall or shall be adequately anchored to the wall with corrosion-resistant anchors.

9.20.11.6. Piers

(1) Where anchor bolts are to be placed in the top of a masonry pier, the pier shall conform to the requirements of Sentence 9.15.2.4.(4) and shall be capped with concrete or reinforced masonry not less than 200 mm thick.

9.20.12. Corbelling

9.20.12.1. Corbelling

(1) All corbelling shall consist of solid units.

(2) The units referred to in Sentence (1) shall be corbelled so that the horizontal projection of any unit does not exceed 25 mm and the total projection does not exceed one-third of the total wall thickness.

9.20.12.2. Corbelling for Cavity Walls

(1) Cavity walls of greater thickness than the *foundation* wall on which they rest shall not be corbelled but may project 25 mm over the outer face of the *foundation* wall disregarding parging.

(2) Where the *foundation* wall referred to in Sentence (1) is unit masonry, it is permitted to be corbelled to meet flush with the inner face of a cavity wall provided

- (a) the projection of each course does not exceed half the height or one-third the width of the corbelled unit, and
- (b) the total corbel does not exceed one-third of the *foundation* wall thickness.

9.20.12.3. Corbelling for Masonry Veneer

(1) Masonry veneer resting on a bearing support shall not project more than 25 mm beyond the supporting base where the veneer is at least 90 mm thick, and 12 mm beyond the supporting base where the veneer is less than 90 mm thick.

(2) In the case of rough stone veneer, the projection, measured as the average projection of the stone units, shall not exceed one-third the bed width beyond the supporting base.

9.20.13. Control of Rain Water Penetration

9.20.13.1. Materials for Flashing

(1) Material used for flashing shall conform to Table 9.20.13.1.

(2) Aluminum flashing in contact with masonry or concrete shall be effectively coated or separated from the masonry or concrete by an impervious membrane.

Table 9.20.13.1.

Flashing Material

Forming Part of Sentence 9.20.13.1.(1)

| Material | Minimum Thickness, mm | |
|---|-----------------------|--------------------|
| | Exposed Flashing | Concealed Flashing |
| Aluminum | 0.48 | — |
| Copper | 0.36 | 0.36 |
| Copper or aluminum laminated to felt or kraft paper | — | 0.05 |
| Hot dipped or galvanized steel | 0.33 | 0.33 |
| Lead sheet | 1.73 | 1.73 |
| Polyethylene | — | 0.50 |
| Roll roofing, Type S | — | standard |
| Zinc | 0.46 | 0.46 |
| Column 1 | 2 | 3 |

9.20.13.2. Fastening of Flashing

(1) Fastening devices for flashing shall be corrosion-resistant and where metal flashing is used, shall be compatible with the flashing with respect to galvanic action.

9.20.13.3. Location of Flashing

(1) Flashing shall be installed in masonry and masonry veneer walls

- (a) beneath jointed masonry window sills,
- (b) over the back and top of parapet walls,
- (c) over the heads of glass block panels, beneath weep holes, and
- (d) over the heads of window and door openings in exterior walls when the vertical distance between the top of a window or door frame and the bottom edge of the eave exceeds one-quarter of the horizontal eave overhang.

(2) Throughwall flashing shall be provided in a masonry veneer wall such that any moisture which accumulates in the air space will be directed to the exterior of the *building*.

9.20.13.4. Extension of Flashing

(1) A flashing may be deleted when the masonry at the sill of a wall opening or the top of a wall is protected by an impervious non-jointed masonry coping which conforms to Article 9.20.13.12.

(2) When installed beneath jointed masonry window sills and jointed masonry copings or over the heads of openings, flashing shall extend from the front edge of the masonry up behind the sill or lintel.

9.20.13.5. Flashing for Weep Holes in Masonry Veneer/Masonry Walls

(1) Flashing beneath weep holes in cavity walls and masonry veneer/masonry back-up walls shall

- (a) be bedded not less than 25 mm in the inside wythe,
- (b) extend to not less than 5 mm beyond the outer face of the *building* element below the flashing, and

(c) be installed with a nominally horizontal slope toward the outside wythe.

9.20.13.6. Flashing for Weep Holes in Veneer

(1) Flashing beneath weep holes in masonry veneer over masonry back-up walls shall conform to the flashing requirements for cavity walls and masonry veneer/masonry back-up walls in Article 9.20.13.5.

(2) Flashing beneath weep holes in masonry veneer over wood-frame walls shall be installed so that it extends from a point not less than 5 mm beyond the outer face of the *building* element below the flashing to a point 150 mm up the wood frame wall.

(3) Where the frame wall is sheathed with a sheathing membrane, a non-wood-based rigid exterior insulating sheathing or a semi-rigid insulating sheathing with an integral sheathing membrane, the flashing shall be installed behind the sheathing membrane or insulating sheathing.

(4) Flashing described in Sentence (2) is permitted to conform to the requirements for concealed flashing in Table 9.20.13.1.

9.20.13.7. Flashing Joints

(1) Joints in flashing shall be made watertight.

9.20.13.8. Required Weep Holes

(1) Weep holes spaced not more than 800 mm apart shall be provided at the bottom of

- (a) cavities in cavity walls, and
- (b) cavities or air spaces in masonry veneer walls.

(2) The cavities or air spaces described in Sentence (1) shall include those above lintels over window and door openings required to be flashed in conformance with Article 9.20.13.4.

(3) The weep holes required in Sentence (1) shall be in a location such that any water that collects in the cavity or space will be directed to the exterior of the *building*.

9.20.13.9. Protection of Interior Finish

(1) Except as provided in Sentence (3), where the interior finish of the exterior walls of a *building* is a type which may be damaged by moisture, exterior masonry walls, other than cavity walls or walls that are protected for their full height by a roof of a carport or porch, shall be

- (a) parged on the interior surface,
- (b) covered with No. 15 breather-type asphalt-saturated paper conforming to CAN2-51.32, "Sheathing, Membrane, Breather Type", and
- (c) the paper referred to in Clause (b) shall be lapped not less than 100 mm at the joints

(2) In situations described in Sentence (1), flashing shall be provided where water will accumulate, to lead it to the exterior.

(3) Where the insulation effectively limits the passage of water vapour and is applied by a waterproof adhesive or by mortar directly to the masonry, the requirements for sheathing paper do not apply.

9.20.13.10. Mortar Droppings

(1) Cavity walls shall be constructed so that mortar droppings are prevented from forming a bridge to allow the passage of rain water across the cavity.

9.20.13.11. Caulking at Door and Window Frames

(1) The junction of door and window frames with masonry shall be caulked in conformance with Subsection 9.27.4.

9.20.13.12. Drips Beneath Window Sills

(1) Except for wall openings located less than 150 mm above ground level, where a concealed flashing is not installed beneath window and door sills, such sills shall be provided with an outward slope and a drip located not less than 25 mm from the wall surface.

9.20.14. Protection during Work**9.20.14.1. Laying Temperature of Mortar and Masonry**

(1) Mortar and masonry shall be maintained at a temperature not below 5°C during installation and for not less than 48 h after installation.

(2) No frozen material shall be used in the mortar mix.

9.20.14.2. Protection from Weather

(1) The top surface of uncompleted masonry exposed to the weather shall be completely covered with a waterproofing material when construction is not in progress.

9.20.15. Reinforcement for Earthquake Resistance**9.20.15.1. Amount of Reinforcement**

(1) Where reinforcement is required in this Section, masonry walls shall be reinforced horizontally and vertically with steel having a total cross-sectional area of not less than 0.002 times the horizontal cross-sectional area of the wall, so that not less than one-third of the required steel area is installed either horizontally or vertically and the remainder in the other direction.

9.20.15.2. Installation Standard

(1) Where reinforcement for masonry is required in this Section, it shall be installed in conformance with the requirements for reinforced masonry as contained in CAN3-A371, "Masonry Construction for Buildings".

9.20.16. Corrosion Resistance**9.20.16.1. Corrosion Resistance of Connectors**

(1) Carbon steel connectors required to be corrosion-resistant shall be galvanized to at least the minimum standards in Table 9.20.16.1.

Table 9.20.16.1.**Minimum Requirements for Galvanizing**

Forming Part of Sentence 9.20.16.1.(1)

| Connector Material | ASTM Standard | Coating Class |
|---|---------------|----------------------------------|
| Wire ties and continuous reinforcing (hot-dipped galvanizing) | A153 | Class B2 or 458 g/m ² |
| Hardware and bolts | A153 | See A153 |

| | | |
|---|------|---|
| Strip, plate, bars, and rolled sections (not less than 3.18 mm thick) | A123 | 610 g/m ² |
| Sheet (less than 3.18 mm thick) | A123 | 305 g/m ² on material 0.76 mm thick ⁽¹⁾ |
| Column 1 | 2 | 3 |

Note to Table 9.20.16.1.:

(1) ASTM A123 does not apply to metal less than 3.18 mm thick. Galvanizing coatings may be interpolated for thicknesses between 3.18 mm and 0.76 mm.

Section 9.21. Chimneys and Flues**9.21.1. General****9.21.1.1. Application**

(1) Except when otherwise specifically stated herein, this Section applies to

(a) rectangular *chimneys* of brick masonry or concrete not more than 12 m in height serving fireplaces or *appliances* having a combined total rated heat output of 120 kW or less, and

(b) *flue pipes* serving *appliances* regulated by Article 9.33.5.3.

(2) *Chimneys* and *flue pipes* other than those described in Sentence (1) shall conform to Section 6.3.

9.21.1.2. Factory-Built Chimneys

(1) *Factory-built chimneys* serving solid fuel-burning *appliances*, and their installation, shall conform to CAN/ULC-S629, "650°C Factory-Built Chimneys".

9.21.1.3. Chimneys, Gas Vents or Flue Pipes

(1) Except as provided in Sentence (2), *chimneys* (other than those described in Sentences 9.21.1.1.(1) and 9.21.1.2.(1)), *gas vents* and *flue pipes* serving gas-, oil- or solid fuel-burning *appliances* and associated equipment shall conform to Subsection 9.33.10. (Note: vents for gas- or oil-burning *appliances* are regulated by Standards administered by other agencies.)

(2) *Flue pipes* serving solid fuel-burning *stoves*, *ranges* and *space heaters* shall conform to CAN/CSA-B365-M, "Installation Code for Solid-Fuel Burning Appliances and Equipment".

9.21.1.4. Chimney or Flue Pipe Walls

(1) The walls of any *chimney* or *flue pipe* shall be constructed to be smoke- and flame-tight.

9.21.2. Chimney Flues**9.21.2.1. Chimney Flue Limitation**

(1) A *chimney flue* serving a fireplace or incinerator shall not serve any other *appliance*.

9.21.2.2. Connections of More Than One Appliance

(1) Except as required in Article 9.21.2.1., two or more fuel-burning *appliances* are permitted to be connected to the same *chimney flue* provided adequate draft is maintained for the connected *appliances* and the connections are made as described in Sentences (2) and (3).

(2) Where 2 or more solid fuel-burning *appliances* are connected to the same *chimney flue*, the *appliances* must be located on the same storey.

(3) The connection referred to in Sentence (2) for a solid fuel-burning *appliance* shall be below connections for *appliances* burning other fuels.

(4) Solid fuel-burning *appliances* shall not be connected to a *chimney flue* serving a gas-burning *appliance*.

9.21.2.3. Inclined Chimney Flues

(1) *Chimney flues* shall not be inclined more than 45° to the vertical.

9.21.2.4. Size of Chimney Flues

(1) Except for *chimneys* serving fireplaces, the size of a *chimney flue* shall conform to the requirements of the solid fuel-burning *appliance* installation standards referenced in Sentence 6.2.1.4.(1) and Article 9.33.1.2.

(2) Where a *chimney flue* serves only one solid fuel-burning *appliance*, the *flue* area shall be at least equal to that of the *flue pipe* connected to it.

9.21.2.5. Fireplace Chimneys

(1) The size of a *chimney flue* serving a masonry fireplace shall be within the allowable range specified in Table 9.21.2.5.A. or Table 9.21.2.5.B.

Table 9.21.2.5.A

Diameter of Round Flues for Fireplace Chimneys

Forming Part of Sentence 9.21.2.5.(1)

| Fireplace Opening, m ² | Chimney Height, m | | | | | | | |
|--------------------------------------|-------------------|------|-------------|------|-------------|------|------------|------|
| | 3.0 to 4.5 | | »4.5 to 5.9 | | »5.9 to 8.9 | | »8.9 to 12 | |
| | Flue diameter, mm | | | | | | | |
| | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| Up to 0.150 | 110 | 170 | 100 | 160 | 90 | 150 | 90 | 150 |
| 0.151 to 0.250 | 150 | 210 | 130 | 190 | 130 | 190 | 120 | 180 |
| 0.251 to 0.350 | 180 | 240 | 160 | 220 | 150 | 210 | 140 | 200 |
| 0.351 to 0.500 | 220 | 280 | 200 | 260 | 190 | 250 | 170 | 230 |
| 0.501 to 0.650 | 260 | 320 | 230 | 290 | 220 | 280 | 200 | 260 |
| 0.651 to 0.800 | 290 | 350 | 260 | 320 | 240 | 300 | 220 | 280 |
| 0.801 to 1.00 | 330 | 390 | 290 | 350 | 270 | 330 | 250 | 310 |
| 1.01 to 1.20 | 360 | 420 | 320 | 380 | 300 | 360 | 270 | 330 |
| 1.21 to 1.40 | 390 | 450 | 350 | 410 | 330 | 390 | 300 | 360 |
| 1.41 to 1.60 | 420 | 480 | 380 | 440 | 350 | 410 | 320 | 380 |
| 1.61 to 1.80 | — | — | 400 | 460 | 370 | 430 | 340 | 400 |
| 1.81 to 2.00 | — | — | — | — | 400 | 460 | 360 | 420 |
| 2.01 to 2.20 | — | — | — | — | — | — | 380 | 440 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Table 9.21.2.5.B

Rectangular Flue Sizes for Fireplace Chimneys

Forming Part of Sentence 9.21.2.5.(1)

| Fireplace Opening, m ² | Chimney Height, m | | | | | | | |
|--------------------------------------|-------------------|-----------|-------------|-----------|-------------|-----------|------------|-----------|
| | 3.0 to 4.5 | | »4.5 to 5.9 | | »5.9 to 8.9 | | »8.9 to 12 | |
| | Flue diameter, mm | | | | | | | |
| | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| Up to 0.150 | 200 x 200 | 200 x 200 | 100 x 200 | 100 x 200 | 100 x 200 | 100 x 200 | 100 x 200 | 100 x 200 |
| 0.151 to 0.250 | 200 x 200 | 200 x 200 | 200 x 200 | 200 x 200 | 200 x 200 | 200 x 200 | 200 x 200 | 200 x 200 |
| 0.251 to 0.350 | 200 x 300 | 200 x 300 | 200 x 200 | 200 x 300 | 200 x 200 | 200 x 200 | 200 x 200 | 200 x 200 |
| 0.351 to 0.500 | 300 x 300 | 300 x 300 | 200 x 300 | 200 x 300 | 200 x 300 | 200 x 300 | 200 x 200 | 200 x 300 |
| 0.501 to 0.650 | 300 x 300 | 300 x 400 | 300 x 300 | 300 x 300 | 300 x 300 | 300 x 300 | 200 x 300 | 200 x 300 |
| 0.651 to 0.800 | 300 x 400 | 300 x 400 | 300 x 300 | 300 x 400 | 300 x 300 | 300 x 300 | 300 x 300 | 300 x 300 |
| 0.801 to 1.00 | 400 x 400 | 400 x 400 | 300 x 400 | 300 x 400 | 300 x 400 | 300 x 400 | 300 x 300 | 300 x 300 |
| 1.01 to 1.20 | 400 x 400 | 400 x 400 | 400 x 400 | 400 x 400 | 300 x 400 | 300 x 400 | 300 x 400 | 300 x 400 |
| 1.21 to 1.40 | — | — | 400 x 400 | 400 x 400 | 400 x 400 | 400 x 400 | 300 x 400 | 300 x 400 |
| 1.41 to 1.60 | — | — | — | — | 400 x 400 | 400 x 400 | 400 x 400 | 400 x 400 |
| 1.61 to 1.80 | — | — | — | — | — | — | 400 x 400 | 400 x 400 |
| 1.81 to 2.00 | — | — | — | — | — | — | 400 x 400 | 400 x 400 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

9.21.2.6. Oval Chimney Flues

(1) The width of an oval *chimney flue* shall be not less than two-thirds its breadth.

9.21.3. Chimney Lining**9.21.3.1. Lining Materials**

(1) Every *masonry or concrete chimney* shall have a lining of clay, concrete, firebrick or metal.

9.21.3.2. Joints in Chimney Liners

(1) Joints of *chimney liners* shall be sealed to provide a barrier to the passage of flue gases and condensate into the cavity between the liner and the surrounding masonry.

(2) Joints of clay, concrete or firebrick *chimney liners* shall be struck flush to provide a straight, smooth, aligned chimney *flue*.

9.21.3.3. Clay Liners

(1) Clay liners shall conform to CAN/CSA-A324-M, "Clay Flue Linings".

(2) Liners referred to in Sentence (1) shall be not less than 15.9 mm thick and shall be capable of resisting, without softening or cracking, a temperature of 1 100°C.

9.21.3.4. Firebrick Liners

(1) Firebrick liners shall conform to ASTM C27, "Classification of Fireclay and High Alumina Refractory Brick".

(2) Firebrick liners shall be laid with high temperature cement mortar conforming to CAN/CGSB-10.3, "Air Setting Refractory Mortar".

9.21.3.5. Concrete Liners

(1) Concrete *flue* liners shall conform to Clause 4.2.6.4. of CAN/CSA-A405, "Design and Construction of Masonry Chimneys and Fireplaces".

9.21.3.6. Metal Liners

(1) Metal liners shall be constructed of at least 0.3 mm thick stainless steel.

(2) Except as permitted in Sentence 9.22.10.1.(3), metal liners referred to in Sentence (1) shall only be used in *chimneys* serving gas- or oil-burning *appliances*.

9.21.3.7. Installation of Chimney Liners

(1) *Chimney liners* shall be installed when the surrounding masonry or concrete is placed.

9.21.3.8. Spaces between Liners and Surrounding Masonry

(1) A space not less than 10 mm wide shall be left between a *chimney liner* and the surrounding masonry.

(2) The space required in Sentence (1) shall not be filled with mortar.

9.21.3.9. Mortar for Chimney Liners

(1) *Chimney liners* used in *chimneys* for solid fuel-burning *appliances* shall be laid in a full bed of

(a) high temperature cement mortar conforming to CAN/CGSB 10.3, "Air Setting Refractory Mortar", or

(b) mortar consisting of 1 part portland cement to 3 parts sand by volume.

(2) *Chimney liners* used in *chimneys* for oil- or gas-burning *appliances* shall be laid in a full bed of mortar consisting of 1 part portland cement to 3 parts sand by volume.

9.21.3.10. Extension of Chimney Liners

(1) *Chimney liners* shall extend from a point not less than 200 mm below the lowest *flue pipe* connection to a point not less than 50 mm or more than 100 mm above the *chimney* cap.

9.21.4. Masonry and Concrete Chimney Construction**9.21.4.1. Unit Masonry**

(1) Unit masonry shall conform to Section 9.20.

9.21.4.2. Concrete

(1) Concrete shall conform to Section 9.3.

9.21.4.3. Footings

(1) Footings for *masonry chimneys* and concrete *chimneys* shall conform to the requirements in Section 9.15.

9.21.4.4. Height of Chimney Flues

(1) A *chimney flue* shall extend not less than

(a) 900 mm above the highest point at which the *chimney* comes in contact with the roof, and

(b) not less than 600 mm above the highest roof surface or structure within 3 m of the *chimney*.

9.21.4.5. Lateral Stability

(1) Except as provided in Sentence (2), *chimneys* shall be braced to provide lateral stability for wind loads in accordance with CAN3-S304-M, "Masonry Design for Buildings".

(2) A *chimney* need not be laterally braced provided

(a) no horizontal outside dimension is less than 400 mm, and

(b) the *chimney* extends not more than 3.6 m above a roof or the masonry wall of which it forms a part.

9.21.4.6. Chimney Caps

(1) The top of a *chimney* shall have a waterproof cap of reinforced concrete, masonry or metal.

(2) The cap required in Sentence (1) shall slope from the lining and be provided with a drip not less than 25 mm from the *chimney* wall.

(3) Cast-in-place concrete caps shall be separated from the *chimney liner* by a bond break and be sealed at that location.

(4) Jointed precast concrete or masonry *chimney* caps shall have flashing installed beneath the cap extending from the liner to the drip edge.

9.21.4.7. Cleanout

(1) Except for a *chimney flue* constructed to serve a masonry fireplace, a cleanout opening with a metal frame and tight-fitting metal door shall be installed near the base of the *chimney flue*.

9.21.4.8. Wall Thickness

(1) The walls of a *masonry chimney* shall be built of solid units not less than 70 mm thick.

9.21.4.9. Separation of Flue Liners

(1) *Flue* liners in the same *chimney* shall be separated by not less than 70 mm of masonry or concrete exclusive of liners where clay liners are used, or 90 mm of firebrick where firebrick liners are used.

(2) *Flue* liners referred to in Sentence (1) shall be installed to prevent significant lateral movement.

9.21.4.10. Flashing

(1) Junctions with adjacent materials shall be adequately flashed to shed water.

9.21.5. Clearance from Combustible Construction

9.21.5.1. Clearance from Combustible Materials

(1) The clearance between *masonry or concrete chimneys* and *combustible* framing material shall be not less than

- (a) 50 mm for interior *chimneys*, and
- (b) 12 mm for exterior *chimneys*.

(2) A clearance of not less than 150 mm shall be provided between a cleanout opening and *combustible* material.

(3) *Combustible* flooring, subflooring and ceiling finishes shall have not less than a 12 mm clearance from *masonry or concrete chimneys*.

9.21.5.2. Sealing of Spaces

(1) All spaces between *masonry or concrete chimneys* and *combustible* material shall be sealed top or bottom with *noncombustible* material.

9.21.5.3. Support of Joists or Beams

(1) Joists or beams may be supported on masonry walls which enclose *chimney flues* provided the *combustible* members are separated from the *flue* by a minimum of 290 mm of solid masonry.

Section 9.22. Fireplaces

9.22.1. General

9.22.1.1. Application

(1) Except as otherwise specifically stated herein, this Section applies to masonry fireplaces constructed on site.

9.22.1.2. Masonry and Concrete

(1) Except as otherwise stated in this Section, unit masonry shall conform to Section 9.20 and concrete to Section 9.3.

(2) Masonry above openings shall be supported by steel lintels conforming to Sentence 9.20.5.2.(2), reinforced concrete or a masonry arch.

9.22.1.3. Footings

(1) Footings for masonry and concrete fireplaces shall conform to Section 9.15.

9.22.1.4. Combustion Air

(1) Except as permitted in Articles 9.22.1.5. and 9.22.1.6., every solid fuel-fired fireplace, including a factory-built fireplace, shall have a supply of combustion air from outdoors in accordance with Sentences (2) to (7).

(2) The combustion air shall be supplied by a *noncombustible* and corrosion-resistant supply duct.

(3) The supply duct shall have

- (a) a diameter of not less than 100 mm or equivalent area, and
- (b) an exterior intake for entry of air from the outdoors.

(4) The supply duct shall contain a tight-fitting damper that shall be located close to the interior outlet and be operable from the room containing the fireplace.

(5) The operating mechanism shall clearly indicate the actual position of the damper.

(6) The interior outlet shall

- (a) be located as close as possible to the opening in the face of the fireplace, and
- (b) be designed to prevent embers from entering the supply duct.

(7) Where a supply of combustion air is provided directly to the fire chamber of a fireplace, including a factory-built fireplace or a steel fireplace liner, the installation shall comply with the "Outdoor Air Supply" requirements provided in CAN/CSA-A405-M, "Design and Construction of Masonry Chimneys and Fireplaces".

9.22.2. Fireplace Liners

9.22.2.1. Brick or Steel Liners

(1) Except where a fireplace is equipped with a steel liner, every fireplace shall have a firebrick liner.

9.22.2.2. Firebrick Liners

(1) Fireplace liners shall be not less than

- (a) 50 mm thick for the sides and back, and
- (b) 25 mm thick for the floor.

(2) Firebrick liners shall be laid with high temperature cement mortar conforming to CAN/CGSB 10.3, "Air Setting Refractory Mortar".

(3) Joints between a firebrick liner and the adjacent back-up masonry shall be offset.

9.22.2.3. Steel Liners

(1) Steel liners for fireplaces shall conform to CAN/ULC-S639M, "Standard for Steel Liner Assemblies for Solid-Fuel Burning Masonry Fireplaces", and shall be installed in accordance with the installation instructions in that Standard.

9.22.3. Fireplace Walls**9.22.3.1. Thickness of Walls**

(1) Except as provided in Sentence (2), the thickness of the back and sides of a fireplace, including the thickness of any firebrick liner, shall consist of not less than 190 mm thick where a metal liner or a firebrick liner less than 50 mm is used.

(2) When a steel fireplace liner is used with an air circulating chamber surrounding the firebox, the back and sides of the fireplace shall consist of

- (a) solid masonry units not less than 90 mm thick, or
- (b) hollow masonry units not less than 190 mm thick.

9.22.4. Fire Chamber**9.22.4.1. Fire Chamber Dimensions**

(1) The distance from the back of the fire chamber to the plane of the fireplace opening shall be not less than 300 mm.

9.22.5. Hearth**9.22.5.1. Hearth Extension**

(1) Except as required in Sentence (2), fireplaces shall have a *noncombustible* hearth extending not less than 400 mm in front of the fireplace opening measured from the facing, and not less than 200 mm beyond each side of the fireplace opening.

(2) Where the fire chamber floor is elevated more than 150 mm above the hearth, the dimension of the hearth measured perpendicular to the plane of the fireplace opening shall be increased by not less than

- (a) 50 mm for an elevation above 150 mm and not more than 300 mm, and
- (b) an additional 25 mm for every 50 mm in elevation above 300 mm.

9.22.5.2. Support of Hearth

(1) Except as permitted in Sentence (2), the fire chamber floor and hearth shall be supported on a reinforced concrete slab not less than a 100 mm thick at its supports and, if cantilevered, not less than 50 mm thick at its unsupported edge.

(2) A hearth for a fireplace with an opening raised not less than 200 mm from a *combustible* floor is permitted to be supported on that floor provided the requirements of Clauses 5.3.6.5. to 5.3.6.7. of CAN/CSA-A405-M, "Design and Construction of Masonry Chimneys and Fireplaces" are followed.

9.22.6. Damper**9.22.6.1. Required Damper and Size**

- (a) The throat of every fireplace shall be equipped with a metal damper sufficiently large to cover the full area of the throat opening.

9.22.7. Smoke Chamber**9.22.7.1. Slope of Smoke Chamber**

(1) The sides of the smoke chamber connecting a fireplace throat with a *flue* shall not be sloped at an angle greater than 45° to the vertical.

9.22.7.2. Wall Thickness

(1) The thickness of masonry walls surrounding the smoke chamber shall be not less than 190 mm at the sides, front and back, except that the portions of the back exposed to the outside may be 140 mm thick.

9.22.8. Factory-Built Fireplaces**9.22.8.1. Conformance to Standard**

(1) Factory-built fireplaces and their installation shall conform to CAN/ULC S610-M, "Factory-Built Fireplaces".

9.22.9. Clearance of Combustible Material**9.22.9.1. Clearance to the Fireplace Opening**

(1) *Combustible* material shall not be placed on or near the face of a fireplace within 150 mm of the fireplace opening, except that where the *combustible* material projects more than 38 mm out from the face of the fireplace above the opening, such material shall be at least 300 mm above the top of the opening.

9.22.9.2. Metal Exposed to the Interior

(1) Metal exposed to the interior of a fireplace such as the damper control mechanism shall have at least a 50 mm clearance from any *combustible* material on the face of the fireplace where such metal penetrates through the face of the fireplace.

9.22.9.3. Clearance to Combustible Framing

(1) Not less than a 100 mm clearance shall be provided between the back and sides of a solid fuel burning fireplace and *combustible* framing, except that a 50 mm clearance is permitted where the fireplace is located in an exterior wall.

(2) Not less than a 50 mm clearance shall be provided between the back and sides of the smoke chamber of a solid fuel burning fireplace and *combustible* framing, except that a 25 mm clearance is permitted where the fireplace is located in an exterior wall.

9.22.9.4. Heat Circulating Duct Openings

(1) The clearance of *combustible* material above heat circulating duct openings from those openings shall be not less than

- (a) 300 mm where the *combustible* material projects more than 38 mm from the face, and
- (b) 150 mm where the projection is less than 38 mm.

9.22.10. Fireplace Inserts**9.22.10.1. Installation Standard**

(1) Fireplace inserts and hearth mounted *stoves* vented through the throat of a fireplace shall conform to ULC S628, "Standard for Fireplace Inserts".

9.22.10.2. Installation

(1) The installation of fireplace inserts and hearth mounted *stoves* vented through the throat of a fireplace shall conform to CAN/CSA-B365-M, "Installation Code for Solid-Fuel Burning Appliances and Equipment".

(2) Fireplace inserts and hearth mounted stoves vented through the throat of a fireplace described in Sentence (1) may be installed in existing fireplaces only if a minimum thickness of 190 mm of solid masonry is provided between the smoke chamber and any existing *combustible* materials, unless the insert is listed for lesser clearances.

(3) A fireplace insert installed in a masonry fireplace shall have

(a) a *listed* metal chimney liner installed from the insert collar to the top of the chimney,

(b) a direct sealed connection to the chimney flue where such provision is part of an insert conforming to Sentence 9.22.10.1.(1), or

(c) a direct sealed connection to the smoke chamber and a cleanout provided to any inaccessible part of the smoke chamber.

Section 9.23. Wood-Frame Construction**9.23.1. Scope****9.23.1.1. Application**

(1) This Section applies to conventional wood-frame construction in which the framing members are spaced not more than 600 mm o.c.

(2) The requirements in this Section with regard to floor framing, subflooring and their fastenings apply to floors for which the design *live load* does not exceed 2.4 kPa.

(3) The requirements in this Section with regard to wall framing and its fastenings apply to walls which support floors for which the design *live load* does not exceed 2.4 kPa on any floor.

(4) Where the conditions in Sentences (2) or (3) are exceeded, the design of the framing and fastening shall conform to Subsection 4.3.1.

9.23.1.2. Post, Beam and Plank Construction

(1) Post, beam and plank construction and plank frame wall construction shall conform to Article 9.4.1.2.

9.23.2. General**9.23.2.1. Strength and Rigidity**

(1) All members shall be so framed, anchored, fastened, tied and braced to provide the necessary strength and rigidity.

9.23.2.2. Protection from Decay

(1) Ends of wood joists, beams and other members framing into masonry or concrete shall be treated to prevent decay where the bottom of the member is at or below ground level, or a 12 mm air space shall be provided at the end and sides of the member.

(2) Air spaces required in Sentence (1) shall not be blocked by insulation, *vapour barriers* or air tight materials.

9.23.2.3. Protection from Dampness

(1) Except as permitted in Sentence (2), wood framing members that are not pressure treated with a wood preservative and which are supported on concrete in contact with the ground or *fill* shall be separated from the concrete by not less than 0.05 mm polyethylene film or Type S roll roofing.

(2) Dampproofing material referred to in Sentence (1) is not required where the wood member is at least 150 mm above the ground.

9.23.2.4. Lumber

(1) Lumber shall conform to the appropriate requirements in Subsection 9.3.2.

9.23.2.5. Termite Protection

(1) Where termites are known to exist, unless pressure treated with a chemical that is toxic to such termites in accordance with Article 9.3.2.9., wood steps shall rest on a non-cellulosic base or apron extending at least 150 mm above *grade*.

(2) Wood lattice or skirting around porches shall be separated from piers and *soil* by at least 50 mm.

9.23.3. Fasteners**9.23.3.1. Standards for Nails and Screws**

(1) Unless otherwise indicated, nails specified in this Section shall be common steel wire nails or common spiral nails, conforming to CSA B111, "Wire Nails, Spikes and Staples".

(2) Wood screws specified in this Section shall conform to ANSI B18.6.1., "Slotted and Recessed Wood Screws (Inch Series)".

9.23.3.2. Length of Nails

(1) All nails shall be long enough so that not less than half their required length penetrates into the second member.

9.23.3.3. Prevention of Splitting

(1) Splitting of wood members shall be minimized by staggering the nails in the direction of the grain and by keeping nails well in from the edges.

9.23.3.4. Nailing of Framing

(1) Except as provided in Sentence (2), nailing of framing shall conform to Table 9.23.3.4.

(2) Where the bottom wall plate or sole plate of an exterior wall is not nailed to joists or blocking in conformance with Table 9.23.3.4., the exterior wall may be fastened to the floor framing by

(a) having plywood, OSB or waferboard sheathing extend down over floor framing and fastened to the floor framing by nails or staples conforming to Article 9.23.3.5., or

(b) tying the wall framing to the floor framing by 50 mm wide galvanized-metal strips

(i) not less than 0.41 mm in thickness,

(ii) spaced not more than 1 200 mm apart, and

(iii) fastened at each end with at least two 63 mm nails.

Table 9.23.3.4.

Nailing for Framing

Forming Part of Sentence 9.23.3.4.(1)

| Construction Detail | Minimum Length of Nails, mm | Minimum Number or Maximum Spacing of Nails |
|---|-----------------------------|--|
| Floor joist to plate – toe nail | 82 | 2 |
| Wood or metal strapping to underside of floor joists | 57 | 2 |
| Cross bridging to joists | 57 | 2 at each end |
| Double header or trimmer joists | 76 | 300 mm (o.c.) |
| Floor joist to stud (balloon construction) | 76 | 2 |
| Ledger strip to wood beam | 82 | 2 per joist |
| Joist to joist splice (See also Table 9.23.13.8.) | 76 | 2 at each end |
| Tail joist to adjacent header joist (end nailed) around openings | 82 | 5 |
| | 101 | 3 |
| Each header joist to adjacent trimmer joist | 82 | 5 |
| (end nailed) around openings | 101 | 3 |
| Stud to wall plate (each end) toe nail | 63 | 4 |
| or end nail | 82 | 2 |
| Doubled studs at openings, or studs at walls or wall intersections and corners | 76 | 750 mm (o.c.) |
| Doubled top wall plates | 76 | 600 mm (o.c.) |
| Bottom wall plate or sole plate to joists or blocking (exterior walls) ⁽¹⁾ | 82 | 400 mm (o.c.) |
| Interior walls to framing or subflooring | 82 | 600 mm (o.c.) |

| | | |
|---|-----|----------------------|
| Horizontal member over openings in non-loadbearing walls – each end | 82 | 2 |
| Lintels to studs | 82 | 2 at each end |
| Ceiling joist to plate – toe nail each end | 82 | 2 |
| Roof rafter, roof truss or roof joist to plate – toe nail | 82 | 3 |
| Rafter plate to each ceiling joist | 101 | 2 |
| Rafter to joist (with ridge supported) | 76 | 3 |
| Rafter to joist (with ridge unsupported) | 76 | See Table 9.23.13.8. |
| Gusset plate to each rafter at peak | 57 | 4 |
| Rafter to ridge board – toe nail – end nail | 82 | 3 |
| Collar tie to rafter – each end | 76 | 3 |
| Collar tie lateral support to each collar tie | 57 | 2 |
| Jack rafter to hip or valley rafter | 82 | 2 |
| Roof strut to rafter | 76 | 3 |
| Roof strut to loadbearing wall – toe nail | 82 | 2 |
| 38 mm x 140 mm or less plank decking to support | 82 | 2 |
| Plank decking wider than 38 mm x 140 mm to support | 82 | 3 |
| 38 mm edge laid plank decking to support (toe nail) | 76 | 1 |
| 38 mm edge laid plank to each other | 76 | 450 mm (o.c.) |
| Column 1 | 2 | 3 |

Note to Table 9.23.3.4.:

⁽¹⁾ See Sentence 9.23.3.4.(2).

9.23.3.5. Fastening for Sheathing or Subflooring

(1) Fastening of sheathing and subflooring shall conform to Table 9.23.3.5.

Table 9.23.3.5.

Fasteners for Sheathing and Subflooring

Forming Part of Sentence 9.23.3.5.(1)

| Element | Minimum Length of Fasteners, mm | | | | Minimum Number or Maximum Spacing of Fastener |
|--|---------------------------------|-----------------------------|---------------|---------|---|
| | Common or Spiral Nails | Ring Thread Nails or Screws | Roofing Nails | Staples | |
| Board lumber 184 mm or less wide | 51 | 45 | N/A | 51 | 2 per support |
| Board Lumber more than 184 mm wide | 51 | 45 | N/A | 51 | 3 per support |
| Fibreboard sheathing up to 13 mm thick | N/A | N/A | 44 | 28 | |
| Gypsum sheathing up to 13 mm thick | N/A | N/A | 44 | N/A | |
| Plywood, OSB or waferboard up to 10 mm thick | 51 | 45 | N/A | 38 | |
| Plywood, OSB or waferboard from 10 mm to 20 mm thick | 51 | 45 | N/A | 51 | |
| Plywood, OSB or waferboard over 20 mm Thick | 57 | 51 | N/A | N/A | 150 mm (o.c.) along edges and 300 mm (o.c.) along intermediate supports |
| Column 1 | 2 | 3 | 4 | 5 | 6 |

(2) Staples shall not be less than 1.6 mm in diameter or thickness, with not less than a 9.5 mm crown driven with the crown parallel to framing.

(3) Roofing nails for the attachment of fibreboard or gypsum sheathing shall not be less than 3.2 mm in diameter with a minimum head diameter of 11.1 mm.

(4) Flooring screws shall not be less than 3.2 mm in diameter.

9.23.4. Maximum Spans

9.23.4.1. Application

(1) Spans provided in this Subsection for joists, beams and lintels supporting floors shall apply only where

- (a) the floors serve residential areas as described in Table 4.1.6.3., or
- (b) the uniformly distributed *live load* on the floors do not exceed that specified for residential areas as described in Table 4.1.6.3.

(2) Spans for joists, beams and lintels supporting floors shall be determined according to Subsection 4.1.3. where the supported floors

- (a) serve other than residential areas, or
- (b) support a uniform *live load* in excess of that specified for residential areas.

9.23.4.2 Spans for Joists, Rafters and Beams

(1) Except as required in Sentence (2), the spans for wood joists, rafters and beams shall conform to the spans shown in Tables A-1 to A-7 for the uniform *live loads* shown in the tables.

(2) Spans for floor joists which are not selected from Tables A-1 and A-2 and which are required to be designed for the same loading conditions, shall not exceed the design requirements for uniform loading and vibration criteria.

(3) Spans for built-up wood and glued-laminated timber floor beams shall conform to the spans in Tables A-8 to A-11.

(4) Spans for roof ridge beams shall conform to the spans in Table A-12 for the uniform snow load shown.

9.23.4.3. Steel Beams

(1) The spans for steel floor beams with laterally supported top flanges shall conform to Table 9.23.4.3.

(2) Beams described in Sentence (1) shall at least meet the requirements for Grade 300 W steel in CAN/CSA-G40.21-M, "Structural Quality Steels".

(3) A beam may be considered to be laterally supported if

- (a) the wood joists bear on its top flange at intervals of 610 mm or less over its entire length,
- (b) the load being applied to this beam is transmitted through the joists, and
- (c) 19 mm by 38 mm wood strips in contact with the top flange are nailed on both sides of the beam to the bottom of the joist supported.

Table 9.23.4.3.

Maximum Spans for Steel Beams Supporting Floors in Dwelling Units⁽¹⁾

Forming Part of Sentence 9.23.4.3.(1)

| Section | Supported Joist Length, m (Half the sum of joist spans on both sides of the beam) | | | | | | |
|-----------------------|--|------|------|-----|-----|-----|-----|
| | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 |
| One Storey Supported | | | | | | | |
| W150 x 22 | 5.5 | 5.2 | 4.9 | 4.8 | 4.5 | 4.3 | 4.1 |
| W200 x 21 | 6.5 | 6.2 | 5.7 | 5.3 | 5.0 | 4.7 | 4.5 |
| W200 x 27 | 7.3 | 6.9 | 6.6 | 6.3 | 6.1 | 5.8 | 5.5 |
| W200 x 31 | 7.8 | 7.4 | 7.1 | 6.8 | 6.6 | 6.4 | 6.1 |
| W250 x 24 | 8.1 | 7.5 | 6.9 | 6.4 | 6.0 | 5.7 | 5.4 |
| W250 x 33 | 9.2 | 8.7 | 8.3 | 8.0 | 7.6 | 7.2 | 6.9 |
| W250 x 39 | 10.0 | 9.4 | 9.0 | 8.6 | 8.3 | 8.9 | 7.6 |
| W310 x 31 | 10.4 | 9.6 | 8.8 | 8.2 | 7.7 | 7.3 | 7.0 |
| W310 x 39 | 11.3 | 10.7 | 10.2 | 9.8 | 9.2 | 8.7 | 8.3 |
| Two Storeys Supported | | | | | | | |
| W150 x 22 | 4.7 | 4.2 | 3.9 | 3.6 | 3.4 | 3.2 | 3.0 |
| W200 x 21 | 5.2 | 4.7 | 4.3 | 4.0 | 3.7 | 3.5 | 3.4 |
| W200 x 27 | 6.3 | 5.7 | 5.2 | 4.8 | 4.5 | 4.3 | 4.1 |
| W200 x 31 | 6.9 | 6.2 | 5.7 | 5.3 | 5.0 | 4.7 | 4.5 |
| W250 x 24 | 6.2 | 5.6 | 5.1 | 4.8 | 4.5 | 4.2 | 4.0 |
| W250 x 33 | 7.9 | 7.1 | 6.5 | 6.0 | 5.7 | 5.4 | 5.1 |
| W250 x 39 | 8.7 | 7.8 | 7.2 | 6.7 | 6.3 | 5.9 | 5.6 |
| W310 x 31 | 8.0 | 7.2 | 6.6 | 6.1 | 5.8 | 5.4 | 5.2 |
| W310 x 39 | 9.5 | 8.6 | 7.9 | 7.3 | 6.9 | 6.5 | 6.2 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

9.23.4.4. Concrete Topping

(1) Except as permitted in Sentence (2), where a floor is required to support a concrete topping, the joist spans shown in Table A-1 or the spacing of the members shall be reduced to allow for the loads due to the topping.

(2) Where a floor is required to support a concrete topping, joist spans are permitted to be selected from Table A-2 provided the concrete

- (a) is 38 to 51 mm thick,
- (b) is normal weight,
- (c) is placed directly on the subflooring, and
- (d) has not less than 20 MPa compressive strength after 28 days.

(3) Where a floor is required to support a concrete topping, the beam spans shown in Tables A-8 to A-11 or the supported length of the floor joists shall be reduced to allow for the loads due to the topping.

9.23.4.5. Heavy Roofing Materials

(1) Where a roof is required to support an additional uniform *dead load* from roofing materials such as concrete roofing tile, or materials other than as specified in Section 9.26., such as clay roofing tiles, the additional load shall be allowed for by reducing

- (a) the spans for roof joists and rafters in Tables A-4 to A-7, or the spacing of the members, and
- (b) the spans for ridge beams and lintels in Tables A-12 to A-20.

9.23.5. Notching and Drilling**9.23.5.1. Holes Drilled in Framing Members**

(1) Holes drilled in roof, floor or ceiling framing members shall be not larger than one-quarter the depth of the member and shall be located not less than 50 mm from the edges, unless the depth of the member is increased by the size of the hole.

9.23.5.2. Notching of Framing Members

(1) Floor, roof and ceiling framing members are permitted to be notched provided the notch is located on the top of the member within half the joist depth from the edge of bearing and is not deeper than one-third the joist depth, unless the depth of the member is increased by the size of the notch.

9.23.5.3. Wall Studs

(1) Wall studs shall not be notched, drilled or otherwise damaged so that the undamaged portion of the stud is less than two-thirds the depth of the stud if the stud is *loadbearing* or 40 mm if the stud is *non-loadbearing*, unless the weakened studs are suitably reinforced.

9.23.5.4. Top Plates

(1) Top plates in walls shall not be notched, drilled or otherwise weakened to reduce the undamaged width to less than 50 mm unless the weakened plates are suitably reinforced.

9.23.5.5. Roof Trusses

(1) Roof truss members shall not be notched, drilled or otherwise weakened unless such notching or drilling is allowed for in the design of the truss.

9.23.6. Anchorage**9.23.6.1. Anchorage of Building Frames**

(1) *Building* frames shall be anchored to the *foundation* unless a structural analysis of wind and earth pressures shows anchorage is not required.

(2) Except as provided in Article 9.23.6.3., anchorage shall be provided by embedding the ends of the first floor joists in concrete, or fastening the sill plate to the *foundation* with not less than 12.7 mm diam anchor bolts spaced not more than 2 400 mm o.c.

(3) Anchor bolts referred to in Sentence (2) shall be fastened to the sill plate with nuts and washers and shall be embedded not less than 100 mm in the *foundation* and so designed that they may be tightened without withdrawing them from the *foundation*.

9.23.6.2. Anchorage of Columns and Posts

(1) Exterior columns and posts shall be anchored to resist uplift and lateral movement.

9.23.6.3. Anchorage of Smaller Buildings

(1) *Buildings* not more than 4.3 m wide and not more than 1 *storey* in *building height* are permitted to be anchored in conformance with the requirements of CAN/CSA-Z240.10.1., "Site Preparation, Foundation and Anchorage of Mobile Homes".

9.23.7. Sill Plates**9.23.7.1. Size of Sill Plates**

(1) Where sill plates provide bearing for the floor system they shall be not less than 38 mm by 89 mm material.

9.23.7.2. Levelling of Sill Plates

(1) Sill plates shall be levelled by setting them on a full bed of mortar, except that where the top of the *foundation* is level, they may be laid directly on the *foundation* provided the junction between the *foundation* and the sill plate is caulked or the sill plate is placed on a layer of mineral wool not less than 25 mm thick before being compressed.

9.23.8. Beams to Support Floors**9.23.8.1. Bearing for Beams**

(1) Beams shall have even and level bearing and shall have not less than 89 mm length of bearing at end supports.

9.23.8.2. Priming of Steel Beams

(1) Steel beams shall be shop primed.

9.23.8.3. Built-up Wood Beams

(1) Where a beam is made up of individual pieces of lumber that are nailed together, the individual members shall be 38 mm or greater in thickness and installed on edge.

(2) Except as permitted in Sentence (3), where individual members of a built-up beam are butted together to form a joint, the joint shall occur over a support.

(3) Where a beam is continuous over more than 1 span, individual members are permitted to be butted together to form a joint at or within 150 mm of the end quarter points of the clear spans, provided the quarter points are not those closest to the ends of the beam.

(4) Members joined at quarter points shall be continuous over adjacent supports.

(5) Joints in individual members of a beam that are located at or near the end quarter points shall not occur in adjacent members at the same quarter point and shall not reduce the effective beam width by more than half.

(6) Not more than 1 butt joint shall occur in any individual member of a built-up beam within any one span.

(7) Except as provided in Sentence (8), where 38 mm members are laid on edge to form a built-up beam, individual members shall be nailed together with a double row of nails not less than 89 mm in length, spaced not more than 450 mm apart in each row with the end nails located 100 mm to 150 mm from the end of each piece.

(8) Where 38 mm members in built-up wood beams are not nailed together as provided in Sentence (7), they shall be bolted together with not less than 12.7 mm diam bolts equipped with washers and spaced not more than 1 200 mm o.c., with the end bolts located not more than 600 mm from the ends of the members.

9.23.9. Floor Joists

9.23.9.1. End Bearing for Joists

(1) Except when supported on ribbon boards, floor joists shall have not less than 38 mm length of end bearing.

(2) Ribbon boards referred to in Sentence (1) shall be not less than 19 mm by 89 mm lumber let into the studs.

9.23.9.2. Joists Supported by Beams

(1) Floor joists may be supported on the tops of beams or may be framed into the sides of beams.

(2) When framed into the side of a wood beam, joists referred to in Sentence (1) shall be supported on

(a) joist hangers or other acceptable mechanical connectors, or

(b) not less than 38 mm by 64 mm ledger strips nailed to the side of the beam, except that 38 mm by 38 mm ledger strips may be used provided each joist is nailed to the beam by at least four 89 mm nails, in addition to the nailing for the ledger strip required in Table 9.23.3.4.

(3) When framed into the side of a steel beam, joists referred to in Sentence (1) shall be supported on the bottom flange of the beam or on not less than 38 mm by 38 mm lumber bolted to the web with not less than 6.3 mm diam bolts spaced not more than 600 mm apart.

(4) Joists referred to in Sentence (3) shall be spliced above the beam with not less than 38 mm by 38 mm lumber at least 600 mm long to support the flooring.

(5) Not less than a 12 mm space shall be provided between the splice required in Sentence (4) and the beam to allow for shrinkage of the wood joists.

9.23.9.3. Restraint of Joist Bottoms

(1) Except as provided in Sentence 9.23.9.4.(5), bottoms of floor joists shall be restrained from twisting at each end by toe-nailing to the supports, end-nailing to the header joists or by providing continuous strapping, blocking between the joists or cross-bridging near the supports.

9.23.9.4. Strapping and Bridging in Tables A-1 and A-2

(1) Where a panel-type ceiling finish is attached to wood furring, the provisions of Article 9.23.9.5. shall apply.

(2) Except as permitted in Sentence (5), where strapping is specified, it shall be

(a) not less than 19 mm by 64 mm, nailed to the underside of floor joists

(b) located not more than 2 100 mm from each support or other rows of strapping, and

(c) fastened at each end to a sill or header.

(3) Where bridging is specified in Table A-1, it shall consist of not less than 19 mm by 64 mm or 38 mm by 38 mm cross-bridging located not more than 2 100 mm from each support or other rows of bridging.

(4) Where bridging and strapping are specified in Tables A-1 and A-2, they shall consist of

(a) bridging as described in Sentence (3), together with, wood strapping as described in Sentence (2), or

(b) 38 mm solid blocking located not more than 2 100 mm from each support or other rows of bridging and securely fastened between the joists, together with wood strapping as defined in Sentence (2).

(5) Strapping is not required if furring strips or a panel-type ceiling finish is attached directly to the joists.

9.23.9.5. Ceiling in Table A2

(1) Where a ceiling is specified in Table A-2, it shall consist of gypsum board, plywood or OSB not less than 12.7 mm thick attached to

(a) 19 mm by 89 mm wood furring spaced at not more than 600 mm o.c., or

(b) 19 mm by 64 mm wood furring spaced at not more than 400 mm o.c.

9.23.9.5. Header Joists

(1) Header joists around floor openings shall be doubled when they exceed 1 200 mm in length.

(2) The size of header joists exceeding 3.2 m in length shall be determined by calculations.

9.23.9.6. Trimmer Joists

(1) Trimmer joists around floor openings shall be doubled when the length of the header joist exceeds 800 mm.

(2) When the header joist exceeds 2 000 mm in length the size of the trimmer joists shall be determined by calculations.

9.23.9.7. Support of Tail and Header Joists

(1) When tail joists and header joists are supported by the floor framing, they shall be supported by suitable joist hangers or nailing in accordance with Table 9.23.3.4.

9.23.9.8. Support of Walls

(1) Non-loadbearing walls parallel to the floor joists shall be supported by joists beneath the wall or on blocking between the joists.

(2) Blocking referred to in Sentence (1) for the support of non-loadbearing walls shall be not less than 38 mm by 89 mm lumber, spaced not more than 1 200 mm apart.

(3) Non-loadbearing interior walls at right angles to the floor joists are not restricted as to location.

(4) Loadbearing interior walls parallel to floor joists shall be supported by beams or walls of sufficient strength to transfer safely the design loads to vertical supports.

(5) Loadbearing interior walls at right angles to floor joists shall be located not more than 900 mm from the joist support when the wall does not support a floor, and not more than 600 mm from the joist support when the wall supports one or more floors, unless the joist size is designed to support such loads.

9.23.9.9. Cantilevered Floor Joists

(1) Floor joists supporting roof loads shall not be cantilevered more than 400 mm beyond their supports where 38 mm by 184 mm joists are

used and not more than 600 mm beyond their supports where 38 mm by 235 mm or larger joists are used.

(2) The cantilevered portions referred to in Sentence (1) shall not support floor loads from other storeys unless calculations are provided to show that the design resistances of the cantilevered joists are not exceeded.

(3) Where cantilevered floor joists described in Sentences (1) and (2) are at right angles to the main floor joists, the tail joists in the cantilevered portion shall

(a) extend inward away from the cantilever support a distance equal to not less than 6 times the length of the cantilever, and

(b) shall be end nailed to an interior doubled header joist in conformance with Table 9.23.3.4.

9.23.10. Wall Studs

9.23.10.1. Stud Size and Spacing

(1) The size and spacing of studs shall conform to Table 9.23.10.1.

Table 9.23.10.1.

Size and Spacing of Studs

Forming Part of Sentence 9.23.10.1.(1)

| Type of Wall | Supported Loads (including dead loads) | Minimum Stud Size, mm | Maximum Stud Spacing, mm | Maximum Unsupported Height, m |
|--------------|---|--|--------------------------|-------------------------------|
| Interior | No load | 38 x 38 38 x 89 flat ⁽¹⁾ | 400 400 | 2.4 3.6 |
| | Attic not accessible by a stairway | 38 x 64 38 x 64 flat ⁽¹⁾ 38 x 89 38 x 89 flat ⁽¹⁾ | 600 400 600 400 | 3.0 2.4 3.6 2.4 |
| | Attic accessible by a stairway plus one floor Roof load plus one floor Attic not accessible by stairway plus 2 floors | 38 x 89 | 400 | 3.6 |
| | Roof load Attic accessible by a stairway Attic not accessible by a stairway plus one floor | 38 x 64 38 x 89 | 400 600 | 2.4 3.6 |
| | Attic accessible by a stairway plus 2 floors Roof load plus 2 floors | 38 x 89 64 x 89 38 x 140 | 300 400 400 | 3.6 3.6 4.2 |
| | Attic accessible by a stairway plus 3 floors Roof load plus 3 floors | 38 x 140 | 300 | 4.2 |
| | | | | |
| Exterior | Roof with or without attic storage | 38 x 64 38 x 89 | 400 600 | 2.4 3.0 |
| | Roof with or without attic storage plus one floor | 38 x 89 38 x 140 | 400 600 | 3.0 3.0 |
| | Roof with or without attic storage plus 2 floors | 38 x 89 64 x 89 38 x 140 | 300 400 400 | 3.0 3.0 3.6 |
| | Roof with or without attic storage plus 3 floors | 38 x 140 | 300 | 1.8 |
| | | | | |
| Column 1 | 2 | 3 | 4 | 5 |

Note to Table 9.23.10.1.:

(1) See Article 9.23.10.3.

9.23.10.2. Bracing and Lateral Support

(1) Except as provided in Sentence (2), each exterior wall in each storey shall be braced with at least one diagonal brace conforming to Sentence (3).

(2) Bracing is not required where the walls

(a) have an interior finish conforming to the requirements of Section 9.29, or

(b) where the walls are

(i) clad with panel type siding,

(ii) diagonally sheathed with lumber, or

(iii) sheathed with plywood, OSB, waferboard, gypsum or fibreboard sheathing.

(3) Where bracing is required, it shall

(a) consist of not less than 19 mm x 89 mm wood members,

(b) be applied to the studs at an angle of approximately 45° to the horizontal, and

(c) extend the full height of the wall on each storey.

(4) Bracing described in Sentence (3) shall be nailed to each stud and wall plate by at least two 63 mm nails.

(5) Where *loadbearing* interior walls are not finished in accordance with Sentence (2), blocking or strapping shall be fastened to the studs at mid-height to prevent sideways buckling.

9.23.10.3. Orientation of Studs

(1) Except as permitted in Sentences (2) and (3), all studs shall be placed at right angles to the wall face.

(2) Studs on the flat are permitted to be used in gable ends of roofs that contain only unfinished space or in non-*loadbearing* interior walls within the limits described in Article 9.23.10.1.

(3) Wall studs that support only a load from an attic not accessible by a stairway are permitted to be placed on the flat within the limits permitted in Article 9.23.10.1. provided

(a) the studs are clad on not less than 1 side with plywood, OSB or waferboard sheathing fastened to the face of the studs with a structural adhesive, and

(b) the portion of the roof supported by the studs does not exceed 2 100 mm in width.

9.23.10.4. Continuity of Studs

(1) Wall studs shall be continuous for the full storey height except at openings and shall not be spliced except by finger-jointing with a structural adhesive.

9.23.10.5. Support for Cladding Materials

(1) Corners and intersections shall be designed to provide adequate support for the vertical edges of interior finishes, sheathing and cladding materials, and in no instance shall exterior corners be framed with less than the equivalent of 2 studs.

(2) Where the vertical edges of interior finishes at wall intersections are supported at vertical intervals by blocking or furring, the vertical distance between such supports shall not exceed the maximum distance between supports specified in Section 9.29.

9.23.10.6. Studs at Sides of Openings

(1) Except as provided in Sentence (2), studs shall be doubled on each side of openings so that the inner studs extend from the lintel to the bottom wall plate and the outer studs extend from the top wall plates to the bottom wall plate.

(2) Single studs are permitted to be used on either side of openings

(a) in non-*loadbearing* interior walls not required to have *fire-resistance ratings* provided the studs extend from the top wall plate to the bottom wall plate, or

(b) in *loadbearing* or non-*loadbearing* interior or exterior walls, provided

(i) the opening is less than and within the required stud spacing, and

(ii) no 2 such openings of full stud space width are located in adjacent stud spaces.

9.23.11. Wall Plates**9.23.11.1. Size of Wall Plates**

(1) Except as provided in Sentence (2), wall plates shall be

(a) not less than 38 mm thick, and

(b) not less than the required width of the wall studs.

(2) In non-*loadbearing* walls and in *loadbearing* walls where the studs are located directly over framing members, the bottom wall plate may be 19 mm thick.

9.23.11.2. Bottom Wall Plates

(1) A bottom wall plate shall be provided in all cases.

(2) The bottom plate in exterior walls shall not project more than one third the plate width over the support.

9.23.11.3. Top Plates

(1) Except as permitted in Sentences (2) to (4), no fewer than 2 top plates shall be provided in *loadbearing* walls.

(2) A single top plate is permitted to be used in a section of a *loadbearing* wall containing a lintel provided the top plate forms a tie across the lintel.

(3) A single top plate is permitted to be used in *loadbearing* walls where the concentrated loads from ceilings, floors and roofs are not more than 50 mm to one side of the supporting studs and in all non-*loadbearing* walls.

(4) The top plates need not be provided in a section of *loadbearing* wall containing a lintel provided the lintel is tied to the adjacent wall section with

(a) not less than 75 mm by 150 mm by 0.91 mm thick galvanized steel, or

(b) 19 mm by 89 mm by 300 mm wood splice nailed to each wall section with at least three 63 mm nails.

9.23.11.4. Joints in Top Plates

(1) Joints in the top plates of *loadbearing* walls shall be staggered not less than one stud spacing.

(2) The top plates in *loadbearing* walls shall be lapped or otherwise suitably tied at corners and intersecting walls in accordance with Sentence (4).

(3) Joints in single top plates used with *loadbearing* walls shall be tied in accordance with Sentence (4).

(4) Ties referred to in Sentences (2) and (3) shall be the equivalent of not less than 75 mm by 150 mm by 0.91 mm thick galvanized steel nailed to each wall with at least three 63 mm nails.

9.23.12. Framing Over Openings**9.23.12.1. Openings in Non-Loadbearing Walls**

(1) Except as provided in Sentence (2), openings in *non-loadbearing* walls shall be framed with not less than 38 mm material the same width as the studs securely nailed to adjacent studs.

(2) Openings for doors in *non-loadbearing* walls required to be *fire separations* with a *fire-resistance rating* shall be framed with the equivalent of at least two 38 mm thick members that are the same width as the wall plates.

9.23.12.2. Openings in Loadbearing Walls

(1) Openings in *loadbearing* walls greater than the required stud spacing shall be framed with lintels designed to carry the superimposed loads to adjacent studs.

(2) Except as provided in Sentence 9.23.12.3.(3), where 2 or more members are used in lintels, they shall be fastened together with not less than 82 mm nails in a double row, with nails not more than 450 mm apart in each row.

(3) Lintel members may be separated by filler pieces.

9.23.12.3. Lintel Spans and Sizes

(1) Spans and sizes of wood lintels shall conform to the spans shown in Tables A-13 to A-20

(a) for *buildings of residential occupancy*,

(b) where the wall studs exceed 38 mm by 64 mm in size,

(c) where the spans of supported joists do not exceed 4.9 m, and

(d) where the spans of trusses do not exceed 9.8 m.

(2) In *loadbearing* exterior and interior walls of 38 x 64 mm framing members, lintels shall consist of

(a) solid 64 mm thick members on edge,

(b) 38 mm thick and 19 mm thick members fastened together with a double row of nails not less than 63 mm long and spaced not more than 450 mm apart.

(3) Lintels referred to in Sentence (2)

(a) shall be not less than 50 mm greater in depth than those shown in Tables A-13 to A-20 for the maximum spans shown, and

(b) shall not exceed 2 240 mm in length.

9.23.13. Roof and Ceiling Framing**9.23.13.1. Continuity of Rafters and Joists**

(1) Roof rafters and joists and ceiling joists shall be continuous or shall be spliced over vertical supports that extend to suitable bearing.

9.23.13.2. Framing around Openings

(1) Roof and ceiling framing members shall be doubled on each side of openings greater than 2 rafter or joist spacings wide.

9.23.13.3. End Bearing Length

(1) The length of end bearing of joists and rafters shall be not less than 38 mm.

9.23.13.4. Location and Attachment of Rafters

(1) Rafters shall be located directly opposite each other and tied together at the peak, or may be offset by their own thickness if nailed to a ridge board not less than 17.5 mm thick.

(2) Except as permitted in Sentence (3), framing members shall be connected by gusset plates or nailing at the peak in conformance with Table 9.23.3.4.

(3) Where the roof framing on opposite sides of the peak is assembled separately, such as in the case of factory-built houses, the roof framing on opposite sides is permitted to be fastened together with galvanized-steel strips not less than 200 mm by 75 mm by 0.41 mm thick spaced not more than 1 200 mm apart and nailed at each end to the framing by at least two 63 mm nails.

9.23.13.5. Shaping of Rafters

(1) Rafters shall be shaped at supports to provide even bearing surfaces and supported directly above the exterior walls.

9.23.13.6. Hip and Valley Rafters

(1) Hip and valley rafters shall be not less than 50 mm greater in depth than the common rafters and not less than 38 mm thick, actual dimension.

9.23.13.7. Intermediate Support for Rafters and Joists

(1) Ceiling joists and collar ties of not less than 38 mm by 89 mm lumber are permitted to be assumed to provide intermediate support to reduce the span for rafters and joists where the roof slope is 1 in 3 or greater.

(2) Collar ties referred to in Sentence (1) more than 2 400 mm long shall be laterally supported near their centres by not less than 19 mm by 89 mm continuous members at right angles to the collar ties.

(3) Dwarf walls and struts may be used to provide intermediate support to reduce the span for rafters and joists.

(4) When struts are used to provide intermediate support they shall be not less than 38 mm by 89 mm material extending from each rafter to a *loadbearing* wall at an angle of not less than 45° to the horizontal.

(5) When dwarf walls are used for rafter support, they shall be framed in the same manner as *loadbearing* walls and securely fastened top and bottom to the roof and ceiling framing to prevent over-all movement.

(6) Solid blocking shall be installed between floor joists beneath dwarf walls referred to in Sentence (5) that enclose finished rooms.

9.23.13.8. Ridge Support

(1) Except as provided in Sentence (4), roof rafters and joists shall be supported at the ridge of the roof by

- (a) a *loadbearing* wall extending from the ridge to suitable bearing, or
- (b) a ridge beam supported by not less than 89 mm length of bearing.

(2) Except as provided in Sentence (3), the ridge beam referred to in Sentence (1) shall conform to the sizes and spans shown in Table A-12, provided

- (a) the supported rafter or joist length does not exceed 4.9 m, and
- (b) the roof does not support any concentrated loads.

(3) The ridge beam referred to in Sentence (1) need not comply with Sentence (2) where

(a) the beam is of not less than 38 mm x 140 mm material, and

(b) the beam is supported at intervals not exceeding 1 200 mm by not less than 38 mm by 89 mm members extending vertically from the ridge to suitable bearing.

(4) When the roof slope is 1 in 3 or more, ridge support need not be provided when the lower ends of the rafters are adequately tied to prevent outward movement.

(5) Ties required in Sentence (4) are permitted to consist of tie rods or ceiling joists forming a continuous tie for opposing rafters and nailed in accordance with Table 9.23.13.8.

(6) Ceiling joists referred to in Sentence (5) shall be fastened together with at least one more nail per joist splice than required for the rafter to joist connection shown in the Table 9.23.13.8.

(7) Members referred to in Sentence (6) are permitted to be fastened together either directly or through a gusset plate.

Table 9.23.13.8.

Rafter-to-Joist Nailing (Unsupported Ridge)

Forming Part of Sentences 9.23.13.8.(5) and (6)

| Roof Slope | Rafter Spacing, mm | Minimum Number of Nails not less than 75 mm Long | | | | | | | | | | | |
|------------|--------------------|--|--------|-------------|----------------------------|--------|-------------|----------------------------------|----------|-------------|----------------------------|--------|-------------|
| | | Rafter Tied to every Joist | | | | | | Rafter tied to Joist every 1.2 m | | | | | |
| | | Building Width up to 8 m | | | Building Width up to 9.8 m | | | Building Width up to 8 m | | | Building Width up to 9.8 m | | |
| | | Roof Snow Load, kPa | | | Roof Snow Load, kPa | | | Roof Snow Load, kPa | | | Roof Snow Load, kPa | | |
| | | 1.0 or less | 1.5 | 2.0 or less | 1.0 or less | 1.5 | 2.0 or more | 1.0 or less | 1.5 | 2.0 or more | 1.0 or less | 1.5 | 2.0 or more |
| 1 in 3 | 400 600 | 4 6 | 5 8 | 6 9 | 5 8 | 7 — | 8 — | 11 11 | — — | — — | — — | — — | — — |
| 1 in 2.4 | 400 600 | 4 5 | 4 7 | 5 8 | 5 7 | 6 9 | 7 11 | 7 7 | 10 10 | — — | 9 — | — — | — — |
| 1 in 2 | 400 600 | 4 4 | 4 5 | 4 6 | 4 5 | 4 7 | 5 8 | 6 6 | 8 8 | 9 9 | 8 8 | — — | — — |
| 1 in 1.71 | 400 600 | 4 4 | 4 4 | 4 5 | 4 5 | 4 6 | 4 7 | 5 5 | 7 7 | 8 8 | 7 7 | 9 9 | 11 11 |
| 1 in 1.33 | 400 600 | 4 4 | 4 4 | 4 4 | 4 4 | 4 4 | 4 5 | 4 4 | 5 5 | 6 6 | 5 5 | 6 6 | 7 7 |
| 1 in 1 | 400 600 | 4 4 | 4 4 | 4 4 | 4 4 | 4 4 | 4 4 | 4 4 | 4 4 | 4 4 | 4 4 | 4 4 | 5 5 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |

9.23.13.9. Restraint of Joist Bottoms

(1) Roof joists supporting a finished ceiling, other than plywood, OSB or waferboard, shall be restrained from twisting along the bottom edges by means of furring, blocking, cross bridging or strapping conforming to Article 9.23.9.3.

(2) When the roof slope is 1 in 4 or less, the ceiling joist sizes referred to in Sentence (1) shall be determined from the span tables for roof joists.

9.23.13.10. Ceiling Loads Supporting Roof Loads

(1) Except as permitted in Sentence (2), ceiling joists supporting part of the roof load from the rafters shall be not less than 25 mm greater in depth than required for ceiling joists not supporting part of the roof load.

9.23.13.11. Wood Roof Trusses

(1) Roof trusses which are not designed in accordance with Part 4 shall

- (a) be capable of supporting a total ceiling load (*dead load plus live load*) of 0.5 kPa plus two and two-thirds times the specified live roof load for 24 h, and

- (b) not exceed the deflections shown in Table 9.23.13.11. when loaded with the ceiling load plus one and one-third times the specified roof snow load for 1 h.

Table 9.23.13.11.**Maximum Roof Truss Deflections**

Forming Part of Sentence 9.23.13.11.(1)

| Truss Span | Type of Ceiling | Maximum Deflection |
|---------------|------------------------------------|--------------------|
| 4.3 m or less | Plaster or gypsum board | 1/360 of the span |
| | Other than plaster or gypsum board | 1/180 of the span |
| Over 4.3 m | Plaster or gypsum board | 1/360 of the span |
| | Other than plaster or gypsum board | 1/240 of the span |
| Column 1 | 2 | 3 |

(2) The joint connections used in trusses described in Sentence (1) shall be designed in conformance with the requirements in Subsection 4.3.1.

(3) Where the length of compression web members in roof trusses described in Sentence (1) exceeds 1 830 mm, such web members shall be provided with continuous bracing to prevent buckling.

(4) Bracing required in Sentence (3) shall consist of not less than 19 mm by 89 mm lumber nailed at right angles to the web members near their centres with at least two 63 mm nails for each member.

(5) Where the ability of a truss design to satisfy the requirements of Sentence (1) is demonstrated by testing, it shall consist of a full scale load test carried out in conformance with CSA S307-M, "Load Test Procedure for Wood Trusses for Houses and Small Buildings".

(6) Where the ability of a truss design to satisfy the requirements of Sentence (1) is demonstrated by analysis, it shall be carried out in accordance with good engineering practice such as described in "Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses," published by the Truss Plate Institute of Canada.

9.23.14. Subflooring**9.23.14.1. Subflooring Required**

(1) Subflooring shall be provided beneath finish flooring where the finish flooring does not have adequate strength to support the design loads.

9.23.14.2. Material Standards

(1) Wood-based panels for subfloors shall conform to

- (a) CSA O121, "Douglas Fir Plywood",
- (b) CSA O151, "Canadian Softwood Plywood",
- (c) CSA O153, "Poplar Plywood",
- (d) CAN/CSA-O325.0, "Construction Sheathing", or
- (e) CSA-O437.0, "OSB and Waferboard".

(2) Particleboard subflooring may be used only where a building is constructed in a factory so that the subfloor will not be exposed to the weather.

(3) Subflooring described in Sentence (2) shall conform to grade N-1 or N-2 in CAN3-O188.1, "Interior Mat-Formed Wood Particle-board".

(4) Subflooring described in Sentence (2) shall have its upper surface and all edges treated to restrict water absorption where the subfloor is used in bathrooms, kitchens, laundry rooms and other areas subject to periodic wetting.

9.23.14.3. Edge Support

(1) Where the edges of panel-type subflooring are required to be supported, such support shall consist of tongue-and-groove panel edges or not less than 38 mm by 38 mm blocking securely nailed between framing members.

9.23.14.4. Direction of Installation

(1) Plywood subflooring shall be installed with the surface grain at right angles to the joists and with joints parallel to floor joists staggered.

(2) OSB subflooring conforming to O-1 and O-2 grades in CSA-O437.0 and waferboard subflooring conforming to R-1 grade in CSA O437.0 shall be installed with the direction of face orientation at right angles to the joists and with the joints parallel to floor joists staggered.

9.23.14.5. Subfloor Thickness or Rating

(1) Except as provided in Sentences (2) and (3), subfloors shall conform to Table 9.23.14.5.A. or Table 9.23.14.5.B.

Table 9.23.14.5.A.**Thickness of Subflooring**

Forming Part of Sentences 9.23.14.5.(1) and 9.23.15.6.(1)

| Maximum Spacing of Supports, mm | Minimum Thickness, mm | | | |
|---------------------------------|----------------------------|---|---------------|--------|
| | Plywood and OSB, O-2 Grade | OSB, O-1 Grade, and Waferboard, R-1 Grade | Particleboard | Lumber |
| 400 | 15.5 | 15.9 | 15.9 | 17.0 |
| 500 | 15.5 | 15.9 | 19.0 | 19.0 |
| 600 | 18.5 | 19.0 | 25.4 | 19.0 |
| Column 1 | 2 | 3 | 4 | 5 |

Table 9.23.14.5.B.**Rating for Subfloor when Applying CSA O325.0**

Forming Part of Sentences 9.23.14.5.(1) and 9.23.15.6.(1)

| Maximum Spacing of Supports, mm | Panel Mark | |
|---------------------------------|------------|-------------------------------|
| | Subfloor | Used with Panel-Type Underlay |
| 400 | 1F16 | 2F16 |
| 500 | 1F20 | 2F20 |
| 600 | 1F24 | 2F24 |
| Column 1 | 2 | 3 |

(2) Where the finished flooring consists of not less than 19 mm matched wood strip flooring laid at right angles to joists, spaced not more than 600 mm o.c., subflooring shall be permitted to consist of not less than

- (a) 12.5 mm thick plywood,
- (b) 12.5 mm thick OSB conforming to O-2 grade,
- (c) 12.7 mm thick OSB conforming to O-1 grade, or
- (d) 12.7 mm thick waferboard conforming to R-1 grade.

(3) Except where the flooring consists of ceramic tiles applied with adhesive, where a separate panel-type underlay or concrete topping is applied to a subfloor on joists spaced not more than 400 mm o.c., the subfloor may consist of not less than

- (a) 12.5 mm thick plywood,
- (b) 12.5 mm thick OSB conforming to O-2 grade,
- (c) 12.7 mm thick OSB conforming to O-1 grade, or
- (d) 12.7 mm thick waferboard conforming to R-1 grade.

9.23.14.6. Annular Grooved Nails

(1) When resilient flooring is applied directly to an OSB, waferboard, particleboard or plywood subfloor, the subfloor shall be fastened to the supports with annular grooved nails.

9.23.14.7. Lumber Subflooring

(1) Lumber subflooring shall be laid at an angle of not less than 45° to the joists.

(2) Lumber subflooring shall be fully supported at the ends on solid bearing.

(3) Lumber for subflooring shall be of uniform thickness and not more than 184 mm wide.

9.23.15. Roof Sheathing

9.23.15.1. Material Standards

(1) Wood-based panels used for roof sheathing shall conform to the requirements of

- (a) CSA O121, "Douglas Fir Plywood",
- (b) CSA O151, "Canadian Softwood Plywood",
- (c) CSA O153, "Poplar Plywood",

(d) CAN/CSA-O325.0, "Construction Sheathing", or

(e) CAN3-O437.0, "OSB and Waferboard".

9.23.15.2. Direction of Installation

(1) Plywood roof sheathing shall be installed with the surface grain at right angles to the roof framing.

(2) OSB roof sheathing conforming to O-1 and O-2 grades as specified in CSA-O437.0, "OSB and Waferboard", shall be installed with the direction of face orientation at right angles to the roof framing members.

9.23.15.3. Joints in Panel Type Sheathing

(1) Panel-type sheathing board shall be applied so that joints perpendicular to the roof ridge are staggered where

- (a) the sheathing is applied with the surface grain parallel to the roof ridge, and
- (b) the thickness of the sheathing is such that the edges are required to be supported.

(2) A gap of not less than 2 mm shall be left between sheets of plywood, OSB or waferboard.

9.23.15.4. Lumber Roof Sheathing

(1) Lumber roof sheathing shall not be more than 286 mm wide and shall be applied so that all ends are supported with end joints staggered.

9.23.15.5. Edge Support

(1) Except as permitted in Sentence (2), where panel-type roof sheathing requires edge support, the support shall consist of

- (a) metal H clips, or
- (b) not less than 38 mm by 38 mm blocking securely nailed between framing members.

(2) The supports referred to in Sentence (1) are not required when tongued-and-grooved edged panel-type sheathing board is used.

9.23.15.6. Thickness or Rating

(1) The thickness or rating of roof sheathing on a flat roof used as a walking deck shall conform to either Table 9.23.14.5.A. or Table 9.23.14.5.B. for subfloors.

(2) The thickness or rating of roof sheathing on a roof not used as a walking deck shall conform to either Table 9.23.15.6.A. or Table 9.23.15.6.B.

Table 9.23.15.6.A.

Thickness of Roof Sheathing

Forming Part of Sentence 9.23.15.6.(2)

| Maximum Spacing of Supports, mm | Minimum Thickness, mm | | | | |
|---------------------------------|----------------------------|-------------------|--|-------------------|--------|
| | Plywood and OSB, O-2 Grade | | OSB, O-1 Grade and Waferboard, R-1 Grade | | Lumber |
| | Edges Supported | Edges Unsupported | Edges Supported | Edges Unsupported | |
| 300 | 7.5 | 7.5 | 9.5 | 9.5 | 17.0 |
| 400 | 7.5 | 9.5 | 9.5 | 11.1 | 17.0 |
| 600 | 9.5 | 12.5 | 11.1 | 12.7 | 19.0 |
| Column 1 | 2 | 3 | 4 | 5 | 6 |

Table 9.23.15.6.B.

Rating for Roof Sheathing When Applying CSA O325.0

Forming Part of Sentence 9.23.15.6.(2)

| Maximum Spacing of Supports, mm | Panel Mark | |
|---------------------------------|-----------------|-------------------|
| | Edges Supported | Edges Unsupported |
| 400 | 2R16 | 1R16 |
| 500 | 2R20 | 1R20 |
| 600 | 2R24 | 1R24 |
| Column 1 | 2 | 3 |

(a) a continuous sheet of galvanized steel not less than 0.33 mm in thickness, or

(b) a continuous sheet of aluminum not less than 0.61 mm in thickness.

(4) All edges of sheathing described in Sentence (3) shall be supported by blocking or framing.

9.23.16. Wall Sheathing

9.23.16.1. Required Sheathing

(1) Exterior walls and gable ends shall be sheathed when the *exterior cladding* requires intermediate fastening between supports or if the *exterior cladding* requires solid backing.

9.23.16.2. Thickness, Rating and Material Standards

(1) Where wall sheathing is required, it shall conform to Table 9.23.16.2.A. or Table 9.23.16.2.B.

Table 9.23.16.2.A.

Wall Sheathing Thickness and Specifications

Forming Part of Article 9.23.16.2.(1)

| Type of Sheathing | Minimum Thickness, mm | | Material Standards |
|---|------------------------------|------------------------------|--|
| | With Supports 400 mm o.c. | With Supports 600 mm o.c. | |
| Fibreboard (insulating) | 9.5 | 11.1 | CAN/CSA-A247 |
| Gypsum sheathing | 9.5 | 12.7 | CSA/CSA-A82.27-M ASTM C 97 |
| Lumber | 17.0 | 17.0 | See Table 9.3.2.1. |
| Mineral Fibre, Rigid Board, Type 2 | 25 | 25 | CSA A101-M |
| OSB, O-2 Grade | 6.0 | 7.5 | CSA O437 |
| OSB, O-1 Grade, and waferboard, R-1 Grade | 6.35 | 7.9 | CSA O437 |
| Phenolic, faced | 25 | 25 | CAN/CGSB-51.25-M |
| Plywood (exterior type) | 6.0 | 7.5 | CSA O121-M CSA O151-M CSA O153-M |

| | | | |
|---|----|----|------------------|
| Polystyrene expanded Types 1 and 2 | 38 | 38 | CAN/CGSB-51.20-M |
| Polystyrene expanded Types 3 and 4 | 25 | 25 | CAN/CGSB-51.20-M |
| Urethane and Isocyanurate Types 1, 2 and 4 | 38 | 38 | CGSB 51-GP-21M |
| Urethane and Isocyanurate, Type 3 | 25 | 25 | CGSB 51-GP-21M |
| Urethane and Isocyanurate Types 1 and 2 faced | 25 | 25 | CAN/CGSB-51.26-M |
| Column 1 | 2 | 3 | 4 |

Note to Table 9.23.16.2.A.:

(1) See also Sentences 9.27.5.1.(2) to (4).

Table 9.23.16.2.B.

Rating For Wall Sheathing When Applying CSA O325.0

Forming Part of Article 9.23.16.2.

| Maximum Spacing of Supports, mm | Panel Mark |
|------------------------------------|------------|
| 400 | W16 |
| 500 | W20 |
| 600 | W24 |
| Column 1 | 2 |

9.23.16.3. Attachment of Cladding to Sheathing

(1) Gypsum sheathing, rigid insulation and fibreboard shall not be used for the attachment of siding materials.

(2) Nails used in attaching the materials listed in Sentence (1) shall be not less than 3.2 mm diam with a minimum head diameter of 11 mm.

9.23.16.4. Lumber Sheathing

(1) Lumber wall sheathing shall be applied so that all ends are supported.

(2) Where lumber wall sheathing is required to provide bracing according to Article 9.23.10.2., it shall be applied with end joints staggered.

9.23.16.5. Joints in Panel-Type Sheathing

(1) A gap of not less than 2 mm shall be left between sheets of plywood, OSB, waferboard or fibreboard.

9.23.16.6. Mansard Style Roofs

(1) Where the bottom portions of mansard style roofs are vented, the vertical framing members behind the sloping portions shall be considered on the same basis as exterior wall studs and shall conform to the appropriate requirements in Subsection 9.23.17.

9.23.17. Wall Sheathing Membrane

9.23.17.1. Material Standard

(1) Sheathing paper shall conform to the performance requirements of CAN2-51.32-M, "Sheathing, Membrane, Breather Type".

9.23.17.2. Sheathing Paper Beneath Stucco

(1) Tar-saturated felts or papers shall not be used as a sheathing paper beneath stucco.

9.23.17.3. Sheathing Membrane and Installation

(1) Except as provided in Articles 9.23.17.4., 9.23.17.5. and 9.23.17.6., at least one layer of sheathing membrane shall be applied beneath siding, stucco or masonry veneer.

(2) Sheathing membrane required in Sentence (1) shall be applied so that joints are lapped not less than 100 mm.

(3) Where sheathing membrane required in Sentence (1) is applied horizontally, the upper sheets shall overlap the lower sheets.

9.23.17.4. Insulating Sheathing in Lieu of Sheathing Membrane

(1) Where non-wood based rigid exterior insulating sheathing, or exterior insulating sheathing with an integral sheathing membrane is installed, a separate sheathing membrane is not required.

(2) Where insulating sheathing is installed as provided in Sentence (1)

(a) sheathing panels subject to moisture deterioration shall be sealed at all joints, and

(b) the joints of sheathing panels not subject to moisture deterioration shall be

(i) sealed at all joints, or

(ii) lapped or tongue and groove, and detailed to ensure drainage of water to the exterior.

9.23.17.5. Sheathing Membranes in Lieu of Sheathing

(1) Except as provided in Article 9.23.17.6., where no sheathing is used, at least 2 layers of sheathing membrane shall be applied beneath the cladding.

(2) All joints in the sheathing membrane required in Sentence (1) shall occur over framing, and the membrane shall be fastened to the framing with roofing nails or staples spaced not more than 150 mm along the edges of the outer layer of sheathing paper.

(3) Wall sheathing is permitted to be used in lieu of 1 layer of sheathing membrane required in Sentence (1), and the thickness need not conform to Table 9.23.16.2.A.

9.23.17.6. Face Sealed Cladding

(1) Sheathing membrane is permitted to be omitted beneath cladding when the joints in the cladding are formed to effectively prevent the passage of wind and rain in conformance with Sentence (2) or (4) as applicable.

(2) Cladding consisting of sheets of plywood, hardboard, OSB, waferboard or asbestos cement is considered to meet the requirements of Sentence (1) provided the cladding is applied so that

- (a) all edges are directly supported by framing, and
- (b) the vertical joints between adjacent sheets are
 - (i) covered with battens,
 - (ii) shiplapped, or
 - (iii) otherwise matched to provide weathertight joints.

(3) Joints between sheets described in Sentence (2) shall be caulked.

(4) Metal siding consisting of sheets of metal is considered to meet the requirements of Sentence (1) where the joints between sheets are of the locked seam type.

Section 9.24. Sheet Steel Stud Wall Framing**9.24.1. General****9.24.1.1. Application**

(1) This Section applies to sheet steel studs for use in non-loadbearing exterior and interior walls.

(2) Where loadbearing steel studs are used, they shall be designed in conformance with Part 4.

9.24.1.2. Material Standards

(1) Steel studs and runners shall conform to CAN/CGSB-7.1-M, "Cold Formed Steel Framing Components".

9.24.1.3. Metal Thickness

(1) Metal thickness specified in this Section shall be the minimum base steel thickness exclusive of coatings.

9.24.1.4. Screws

(1) Screws for the application of cladding, sheathing or interior finish materials to steel studs, runners and furring channels shall conform to ASTM C1002, "Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases".

9.24.1.5. Cladding, Sheathing and Interior Finish Required

(1) Cladding or sheathing, and interior finish shall be installed on steel stud framing and shall be fastened with screws

- (a) spaced at the appropriate spacing described in Section 9.29., and
- (b) penetrating not less than 10 mm through the metal.

9.24.2. Size of Framing**9.24.2.1. Size and Spacing of Studs in Interior Walls**

(1) Except as required in Articles 9.24.2.3. and 9.24.2.4., the size and spacing of steel studs for non-loadbearing interior walls shall conform to Table 9.24.2.1.

Table 9.24.2.1.**Steel Studs for Non-Loadbearing Interior Walls**

Forming Part of Sentence 9.24.2.1.(1)

| Minimum Stud Size, mm | Maximum Stud Spacing, mm | Maximum Wall Height, m |
|-----------------------|--------------------------|------------------------|
| 30 x 40 | 400 | 3.0 |
| | 600 | 2.7 |
| 30 x 63 | 400 | 4.0 |
| | 600 | 3.6 |
| 30 x 91 | 400 | 5.2 |
| | 600 | 4.9 |
| Column 1 | 2 | 3 |

9.24.2.2. Thickness of Studs

(1) Except as required in Article 9.24.2.4., steel studs in non-loadbearing interior walls shall have a metal thickness of not less than 0.46 mm.

9.24.2.3. Runners

(1) Runners for interior and exterior non-loadbearing walls shall have a thickness of not less than the thickness of the corresponding studs and shall have not less than 30 mm flanges.

9.24.2.4. Openings in Fire Separations

(1) Where openings for doors in non-loadbearing fire separations required to have a fire-resistance rating do not exceed 1 200 mm in width

- (a) the width of steel studs shall be not less than 63 mm, and
- (b) the steel thickness shall be not less than 0.46 mm.

(2) Where openings described in Sentence (1) exceed 1 200 mm in width

- (a) the width of steel studs shall be not less than 91 mm, and
- (b) the metal thickness shall be not less than 0.85 mm.

(3) The distance to the first stud beyond the jamb of any door opening in a fire separation required to have a fire-resistance rating shall not exceed 400 mm.

(4) Where the distance between the framing over the opening referred to in Sentence (1) and the top runner exceeds 400 mm in such walls, intermediate support shall be installed at intervals of not more than 400 mm above the opening.

9.24.2.5. Size and Spacing of Studs in Exterior Walls

(1) The size and spacing of non-loadbearing steel studs for exterior walls shall conform to Table 9.24.2.5.

Table 9.24.2.5.

**Size and Spacing of Steel Studs for
Non-Loadbearing Exterior Walls**

Forming Part of Sentence 9.24.2.5.(1)

| Minimum Stud Size, mm | Minimum Metal Thickness, mm | Maximum Stud Length, m | | |
|-----------------------|-----------------------------|------------------------|---------------|---------------|
| | | Spacing of Studs | | |
| | | 300 mm (o.c.) | 400 mm (o.c.) | 600 mm (o.c.) |
| 30 x 91 | 0.53 | 3.0 | 2.4 | — |
| 30 x 91 | 0.69 | 3.3 | 2.7 | 2.4 |
| 30 x 91 | 0.85 | 3.6 | 3.0 | 2.7 |
| 30 x 91 | 1.0 | 4.0 | 3.3 | 3.0 |
| Column 1 | 2 | 3 | 4 | 5 |

9.24.3. Installation

9.24.3.1. Installation of Runners

(1) Runners shall be provided at the tops and bottoms of walls.

(2) Runners required in Sentence (1) shall be securely attached to the *building* at approximately 50 mm from the ends, and at intervals of not more than 600 mm o.c. for interior walls and 300 mm o.c. for exterior walls.

(3) Fasteners used for attachment described in Sentence (2) shall consist of the equivalent of 63 mm nails or 25 mm screws.

(4) Studs at openings and which are not full wall height shall be supported by a runner at the ends of the studs, securely fastened to the full length studs at the sides of the opening.

9.24.3.2. Fire-Rated Walls

(1) Steel studs used in walls required to have a *fire-resistance rating* shall be installed so that there is not less than a 12 mm clearance between the top of the stud and the top of the runner to allow for expansion in the event of fire.

(2) Except as provided in Article 9.24.3.6., studs in walls referred to in Sentence (1) shall not be attached to the runners in a manner that will prevent such expansion.

(3) Framing above doors with steel door frames in non-loadbearing *fire separations* required to have a *fire-resistance rating* shall consist of 2 runners on the flat fastened back to back.

(4) The lower runner required in Sentence (3) shall be cut through the flanges and be bent at each end to extend upwards at least 150 mm and fastened to the adjacent studs.

9.24.3.3. Orientation of Studs

(1) Steel studs shall be installed with webs at right angles to the wall face and, except at openings, shall be continuous for the full wall height.

9.24.3.4. Support for Cladding Materials

(1) Corners and intersections of walls shall be constructed to provide support for the cladding materials.

9.24.3.5. Framing around Openings

(1) Studs shall be doubled on each side of every opening where such openings involve more than 1 stud space, and shall be tripled where the openings in exterior walls exceed 2.4 m in width.

(2) Studs described in Sentence (1) shall be fastened together by screws, crimping or welding to act as a single structural unit in resisting transverse loads.

9.24.3.6. Attachment of Studs to Runners

(1) Studs shall be attached to runners by screws, crimping or welding around wall openings, and elsewhere where necessary to keep the studs in alignment during construction.

(2) Where clearance for expansion is required in Article 9.24.3.2., attachment required in Sentence (1) shall be applied between studs and bottom runners only.

9.24.3.7. Openings for Fire Dampers

(1) Openings for *fire dampers* in non-loadbearing *fire separations* required to have a *fire-resistance rating* shall be framed with double studs on each side of the opening.

(2) The sill and header for openings described in Sentence (1) shall consist of a runner track with right angle bends made on each end so as to extend 300 mm above the header or below the sill and fastened to the studs.

(3) The openings described in Sentence (1) shall be lined with a layer of gypsum board at least 12.7 mm thick fastened to stud and runner webs.

Section 9.25. Heat Transfer, Air Leakage and Condensation Control

9.25.1. Scope

9.25.1.1. Application

(1) This Section applies to the application of thermal insulation and measures to control condensation, heat transfer and air leakage for *buildings of residential occupancy* intended for use on a continuing basis during the winter months.

(2) Insulation and sealing of heating and ventilating ducts shall conform to Sections 9.32. and 9.33.

9.25.1.2. General

(1) Except as provided in Sentence (2), any sheet or panel type material with an air leakage characteristic less than $0.1 \text{ l/(s}\cdot\text{m}^2)$ at 75 Pa and water vapour permeance less than $60 \text{ ng/(Pa}\cdot\text{s}\cdot\text{m}^2)$ and incorporated in a *building assembly* required by Article 9.25.2.1. to be insulated shall be installed

(a) on the warm face of the assembly,

(b) at a location where the ratio between the total thermal resistance of all materials outboard of its innermost impermeable surface and the total thermal resistance of all materials inboard of that surface is not less than required in Table 9.25.1.2., or

(c) outboard of an air space that is vented to the outdoors and, for walls, drained.

Table 9.25.1.2.

Ratio of Outboard to Inboard Thermal Resistance

Forming Part of Sentence 9.25.1.2.(1)

| Heating Degree Days of Building Location ⁽¹⁾ , Celsius degree-days | Minimum Ratio, Total Thermal Resistance Outboard of material's Inner Surface to Total Thermal Resistance Inboard of Material's Inner Surface |
|---|--|
| up to 4999 | 0.20 |
| 5000 to 5999 | 0.30 |
| 6000 to 6999 | 0.35 |
| 7000 to 7999 | 0.40 |
| 8000 to 8999 | 0.50 |
| 9000 to 9999 | 0.55 |
| 10000 to 10999 | 0.60 |
| 11000 to 11999 | 0.65 |
| 12000 or higher | 0.75 |
| Column 1 | 2 |

Note to Table 9.25.1.2.:⁽¹⁾ See Sentence 2.2.1.1.(1).

(2) Sheathing materials installed so that, in each framing space, at least one of the gaps required by Article 9.23.15.3. and Sentence

9.23.16.5.(1) does not occur over framing need not comply with Sentence (1).

9.25.1.3. Thermal Design

(1) The requirements for thermal insulation in this Section need not be met where thermal design is provided in accordance with Section 9.38.

9.25.2. Thermal Insulation**9.25.2.1. Required Insulation**

(1) All walls, ceilings and floors separating heated space from unheated space, the exterior air or the exterior *soil* shall be provided with sufficient thermal insulation to prevent moisture condensation on their room side during the winter and to ensure comfortable conditions for the occupants.

(2) Insulation shall be provided between heated and unheated spaces and between heated spaces and the exterior, and around the perimeter of concrete slabs-on-ground.

(3) Reflective surfaces of insulating materials shall not be considered in calculating the thermal resistance of *building assemblies*.

(4) Except as permitted in Sentences (5), (6), (7), (8), (13) and (14) the minimum thermal resistance of insulation shall conform to Table 9.25.2.1.

Table 9.25.2.1.

Minimum Thermal Resistance of Insulation to be Installed based on Degree Day Zones⁽¹⁾

Forming Part of Sentence 9.25.2.2.(4)

| Building Element Exposed to the Exterior or to Unheated Space | RSI Value Required | | |
|---|--------------------------|------------------------|---|
| | Zone 1 Less than 5000 | Zone 2 5000 or more | Electric Space Heating Zone 1 & 2 |
| Ceiling below <i>attic or roof space</i> | 5.40 | 6.70 | 7.00 |
| Roof assembly without <i>attic or roof space</i> | 3.52 | 3.52 | 3.87 |
| Wall other than <i>foundation wall</i> | 3.00 | 3.87 | 4.70 |
| <i>Foundation</i> walls enclosing heated space | 1.41 | 2.11 | 3.25 |
| Floor, other than slab-on-ground | 4.40 | 4.40 | 4.40 |
| Slab-on ground containing pipes or heating ducts | 1.76 | 1.76 | 1.76 |
| Slab-on-ground not containing pipes or heating ducts | 1.41 | 1.41 | 1.41 |
| Column 1 | 2 | 3 | 4 |

Note to Table 9.25.2.1.:⁽¹⁾ Number of degree days for individual locations are contained in Table 2.5.1.1.

(5) Except for doors on enclosed unheated vestibules and cold cellars, and except for glazed portions of doors, all doors separating heated space from unheated space shall have a thermal resistance of not less than RSI 0.7 where a storm door is not provided.

(6) All sliding glass doors separating heated space from unheated space shall have a thermal resistance of not less than 0.30 m²°C/W.

(7) All glazing that separates heated space from unheated space shall have a thermal resistance of not less than 0.30 m²°C/W.

(8) The thermal resistance values in Table 9.25.2.1.A. for exposed roofs or ceilings may be reduced near eaves to the extent made necessary by the roof slope and required ventilation clearances, except that the thermal resistance of insulation at the location directly above the inner surface of the exterior wall shall be at least RSI 2.1.

(9) Where an enclosed unheated space is separated from a heated space by glazing, the unheated enclosure may be considered to provide a thermal resistance of 0.16 m²°C/W.

(10) When *electric space heating* is used in a category TIL3 dwelling unit, all sliding glass doors separating heated space from

unheated space or the outdoors shall have an energy rating of not less than -13 ER.

(11) When *electric space heating* is used in a category TIL3 *dwelling unit*, all glazing that separates heated space from unheated space or the outdoors shall have an energy rating of not less than -13 ER for openable windows and 0 ER for fixed glazing.

(12) The energy rating required in Sentences (10) and (11) shall be determined in conformance with CAN/CSA-A440.2-M, "Energy Performance Evaluation of Windows and Sliding Glass Doors".

(13) Log wall construction and post, beam and plank construction shall have a minimum thermal resistance of RSI 2.1 for the total assembly.

(14) The thermal resistance value in Sentence (13) for the total wall assembly may be reduced to not less than RSI 1.61, provided that

- (a) the thermal resistance of insulation for exposed roof or ceiling required in Table 9.25.2.1.A. shall be increased by an amount equivalent to the reduction permitted in this Sentence, and
- (b) for log walls, the logs are machined squared having tongue-and-groove or splined joints.

9.25.2.3. Insulation Materials

(1) Except as required in Sentence (2), thermal insulation shall conform to the requirements of

- (a) CAN/CGSB-51.20-M, "Thermal Insulation, Polystyrene, Boards and Pipe Covering",
- (b) CGSB 51-GP-21M, "Thermal Insulation, Urethane and Isocyanurate, Unfaced",
- (c) CAN/CGSB-51.23, "Spray Applied Rigid Polyurethane Cellular Plastic Thermal insulation",
- (d) CAN/CGSB-51.25-M, "Thermal Insulation, Phenolic, Faced",
- (e) CAN/CGSB-51.26-M, "Thermal Insulation, Urethane and Isocyanurate, Board, Faced",
- (f) CAN/CGSB-51-GP-27M, "Thermal Insulation, Polystyrene, Loose Fill",
- (g) CGSB 51-GP-60M, "Thermal Insulation, Cellulose Fibre, Loose Fill",
- (h) CSA A101, "Thermal Insulation, Mineral Fibre, for Buildings", or
- (i) CAN/CSA-A247-M, "Insulating Fibreboard".

(2) The *flame-spread ratings* requirements contained in the standards listed in Sentence (1) shall not apply.

(3) Insulation in contact with the ground shall be inert to the action of *soil* and water and be such that its insulative properties are not significantly reduced by moisture.

(4) Type 1 expanded polystyrene insulation as described in CAN/CGSB-51.20-M, "Thermal Insulation, Polystyrene, Boards and Pipe Covering" shall not be used in contact with the ground or as roof insulation applied above the roofing membrane.

9.25.2.4. Installation of Thermal Insulation

(1) Insulation shall be installed so that there is a reasonably uniform insulating value over the entire face of the insulated area.

(2) Insulation shall be applied to the full width and length of the space between furring or framing.

(3) Except where the insulation provides the principal resistance to air leakage, thermal insulation shall be installed so that at least 1 face is in full and continuous contact with an element with low air permeance.

(4) Insulation on the interior of *foundation* walls enclosing a crawl space shall be applied so that there is not less than a 50 mm clearance above the crawl space floor if the insulation is of a type that may be damaged by water.

(5) Insulation around concrete slabs-on-ground shall be located so that heat from the *building* is not restricted from reaching the ground beneath the perimeter, where exterior walls are not supported by footings extending below frost level.

(6) Where insulation is exposed to the weather and subject to mechanical damage, it shall be protected with not less than

- (a) 6 mm asbestos-cement board,
- (b) 6 mm preservative-treated plywood, or
- (c) 12 mm cement parging on wire lath applied to the exposed face and edge.

(7) Except as permitted in Sentence (9) insulation and vapour barrier shall be protected from mechanical damage by a covering of gypsum board, plywood, particleboard, waferboard or hardboard.

(8) In unfinished *basements*, the protection required in Sentence (7) need not be provided for mineral fibre insulation provided it is covered with polyethylene vapour barrier of at least 0.15 mm in thickness.

(9) Insulation in factory-built *buildings* shall be installed so that it will not become dislodged during transportation.

(10) Insulation applied to the interior of *foundation* walls enclosing heated space shall extend from the underside of the subfloor to not less than 600 mm below the adjacent exterior ground level.

(11) The insulation required by Sentence (10) may be provided by a system installed

- (a) on the interior of the *foundation* wall,
- (b) on the exterior face of the *foundation* wall, or
- (c) partially on the interior and partially on the exterior, provided the thermal performance of the system is equivalent to that permitted in Clauses (a) or (b).

(13) If a *foundation* wall is constructed of hollow masonry units, one or more of the following shall be used to control convection currents in the core spaces

- (a) filling the core spaces,
- (b) at least one row of semi-solid blocks at or below *grade*, or
- (c) other similar methods.

(14) Masonry walls of hollow units which penetrate the ceiling shall be sealed at or near the ceiling adjacent to the roof space to prevent air within the voids from entering the *attic* or *roof space* by

- (a) capping with masonry units without voids, or
- (b) installation of flashing material extending across the full width of the masonry.

9.25.2.5. Installation of Loose-Fill Insulation

(1) Except as provided in Sentences (2) to (6), loose-fill insulation shall be used on horizontal surfaces only.

(2) Loose-fill insulation is permitted to be installed in attic spaces over ceilings sloped not more than 2.5 in 12.

(3) Loose-fill insulation may be used in wood-frame walls of existing buildings.

(4) Water repellent loose-fill insulation may be used between the outer and inner wythes of masonry cavity walls.

(5) Where soffit venting is used, measures shall be taken

(a) to prevent loose-fill insulation from blocking the soffit vents and to maintain an open path for circulation of air from the vents into the *attic or roof space*, and

(b) to minimize air flow into the loose-fill insulation near the soffit vents to maintain the thermal performance of the material.

9.25.2.6. Installation of Spray-applied Polyurethane

(1) Spray-applied polyurethane insulation shall be installed in accordance with CAN/CGSB-51.39, "Sprayed Application of Rigid Polyurethane Cellular Plastic Thermal Insulation for Building Construction".

9.25.3. Air Barrier Systems

9.25.3.1. Required Barrier to Air Leakage

(1) Thermally insulated wall, ceiling and floor assemblies shall be constructed so as to include an *air barrier system* which will provide a continuous barrier to air leakage

(a) from the interior of the *building* into wall, floor, *attic or roof spaces* sufficient to prevent excessive moisture condensation in such spaces during the winter, and

(b) from the exterior inward sufficient to prevent moisture condensation on the room side during winter.

9.25.3.2. Air Barrier System Properties

(1) Sheet and panel type materials intended to provide the principal resistance to air leakage shall have an air leakage characteristic not greater than $0.02 \text{ L/(s}\cdot\text{m}^2)$ measured at an air pressure differential of 75 Pa.

(2) Where polyethylene sheet used to provide the air-tightness in the *air barrier system* shall conform to CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet for Use in Building Construction".

9.25.3.3. Continuity of the Air Barrier System

(1) Where the *air barrier system* consists of an air-impermeable panel-type material, all joints shall be sealed to prevent air leakage.

(2) Where the *air barrier system* consists of flexible sheet material, all joints shall be

(a) sealed, or

(b) lapped not less than 100 mm and clamped, such as between framing members, furring or blocking and rigid panels.

(3) Where an interior wall meets an exterior wall, ceiling, floor or roof required to be provided with an air barrier protection, the *air barrier system* shall extend across the intersection.

(4) Where an interior wall projects through a ceiling or extends to become an exterior wall, spaces in the wall shall be blocked to provide continuity across those spaces with the *air barrier system* in the abutting walls or ceiling.

(5) Where an interior floor projects through an exterior wall or extends to become an exterior floor, continuity of the *air barrier system* shall be maintained from the abutting walls across the floor assembly.

(6) Penetrations of the *air barrier system*, such as those created by the installation of doors, windows, electrical wiring, electrical boxes, piping or ductwork, shall be sealed to maintain the integrity of the *air barrier system* over the entire surface.

(7) Access hatches installed through assemblies constructed with an *air barrier system* shall be weatherstripped around their perimeters to prevent air leakage.

(8) Clearances between *chimneys or gas vents* and the surrounding construction which would permit air leakage from within the *building* into a wall or *attic or roof space* shall be sealed by *noncombustible* material to prevent such leakage.

9.25.4. Vapour Barriers

9.25.4.1. Required Barrier to Vapour Diffusion

(1) Thermally insulated wall, ceiling and floor assemblies shall be constructed with a vapour barrier sufficient to prevent condensation in the wall spaces, floor spaces or *attic or roof spaces*.

9.25.4.2. Vapour Barrier Materials

(1) Except as required in Sentence (2), *vapour barriers* shall have an initial permeance not greater than $45 \text{ ng/(Pa}\cdot\text{s}\cdot\text{m}^2)$.

(2) When used where a high resistance to vapour movement is required, such as in wall constructions that incorporate exterior cladding or sheathing having a low water vapour permeance, *vapour barriers* shall have a permeance not greater than $15 \text{ ng/(Pa}\cdot\text{s}\cdot\text{m}^2)$.

(3) Where polyethylene is installed as the *vapour barrier* required in Sentence (2), it shall conform to CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet for Use in Building Construction".

(4) Membrane-type *vapour barriers* other than polyethylene shall conform to CAN/CSA-51.33-M, "Vapour Barrier, Sheet, Excluding Polyethylene, for Use in Building Construction".

(5) Where a coating is applied to gypsum board to function as the *vapour barrier*, the permeance of the coating shall be determined in accordance with CAN/CGSB-1.501-M, "Method for Permeance of Coated Wallboard".

9.25.4.3. Installation of Vapour Barriers

(1) *Vapour barriers* shall be installed to protect the entire surfaces of thermally insulated wall, ceiling and floor assemblies.

(2) *Vapour barriers* shall be installed sufficiently close to the warm side of insulation to prevent condensation at design conditions.

Section 9.26. Roofing**9.26.1. General****9.26.1.1. Purpose of Roofing**

(1) Roofs shall be protected with roofing, including flashing, installed to shed rain effectively and prevent water due to ice damming from entering the roof.

9.26.1.2. Alternate Installation Methods

(1) Methods described in CAN3-A123.51, "Asphalt Shingle Application on Roof Slopes 1:3 and Steeper", or CAN3-A123.52, "Asphalt Shingle Application on Roof Slopes 1:6 to Less than 1:3" are permitted to be used for asphalt shingle applications not described in this Section.

9.26.2. Roofing Materials**9.26.2.1. Material Standards**

- (1) Roofing materials shall conform to
 - (a) CAN/CGSB-37.4-M, "Fibrated, Cutback Asphalt, Lap Cement for Asphalt Roofing",
 - (b) CAN/CGSB-37.5-M, "Cutback Asphalt Plastic, Cement",
 - (c) CSA/CGSB 37.8M, "Asphalt, Cutback, Filled, for Roof Coating",
 - (d) CGSB 37-GP-9Ma, "Primer, Asphalt for Asphalt Roofing, Dampproofing and Waterproofing",
 - (e) CGSB 37-GP-21M, "Tar, Cutback, Fibrated, for Roof Coating",
 - (f) CAN/CGSB 37.50-M, "Asphalt, Rubberized, Hot Applied for Roofing and Waterproofing",
 - (g) CGSB 37-GP-52M, "Roofing and Waterproofing Membrane, Sheet Applied, Elastomeric",
 - (h) CGSB 37-GP-54M, "Roofing and Waterproofing Membrane, Sheet Applied, Flexible, Polyvinyl Chloride",
 - (i) CGSB 37-GP-56M, "Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing",
 - (j) CGSB 41-GP-6M, "Sheets, Thermosetting Polyester Plastics, Glass Fiber Reinforced",
 - (k) CAN2-51.32-M, "Sheathing, Membrane, Breather Type",
 - (l) CSA A123.1-M, "Asphalt Shingles Surfaced with Mineral Granules",

- (m) CSA A123.2-M, "Asphalt Coated Roofing Sheets",
- (n) CSA A123.3-M, "Asphalt or Tar Saturated Roofing Felt",
- (o) CSA A123.4-M, "Bitumen for Use in Construction of Built-Up Roof Coverings and Dampproofing and Waterproofing Systems",
- (p) CAN/CSA A123.5-M, "Asphalt Shingles Made from Glass Felt and Saturated with Mineral Granules",
- (q) CAN/CSA A123.17, "Asphalt-Saturated Felted Glass-Fibre Mat for Use in Construction of Built-Up Roofs",
- (r) CAN/CSA-A220.0, "Performance of Concrete Roof Tiles",
- (s) CSA O118.1-M, "Western Red Cedar Shingles and Shakes", or
- (t) CSA O118.2-M, "Eastern White Cedar Shingles".

9.26.2.2. Nails

(1) Nails used for roofing shall be corrosion-resistant roofing or shingle nails conforming to CSA B111, "Wire Nails, Spikes and Staples".

(2) Nails shall have sufficient length to penetrate through or 12 mm into roof sheathing.

(3) Nails used with asphalt roofing shall have a head diameter of not less than 9.5 mm and a shank thickness of not less than 2.95 mm.

(4) Nails used with wood shingles or shakes shall have a head diameter of not less than 4.8 mm and a shank thickness of not less than 2.0 mm and shall be stainless steel, aluminum or hot-dipped galvanized.

9.26.2.3. Staples

(1) Staples used to apply asphalt or wood shingles shall be corrosion-resistant and shall be driven with the crown parallel to the eaves.

(2) Staples used with asphalt shingles shall be not less than 19 mm long, 1.6 mm diam or thickness, with not less than a 25 mm crown, except that an 11 mm crown may be used as provided in Sentence 9.26.7.4.(2).

(3) Staples used with wood shingles shall be not less than 29 mm long, 1.6 mm diam or thickness, with not less than a 9.5 mm crown and shall be stainless steel or aluminum.

9.26.3. Roof Slope**9.26.3.1. Slope**

(1) Except as provided in Sentences (2) and (3), the roof slopes on which roof coverings may be applied shall conform to Table 9.26.3.1.

Table 9.26.3.1.

Roofing Types and Slope Limits

Forming Part of Sentence 9.26.3.1.(1)

| Type of Roofing | Minimum Slope | Maximum Slope |
|---|------------------------|---------------|
| Built-up Roofing | | |
| Asphalt base (gravelled) | 1 in 50 ⁽¹⁾ | 1 in 4 |
| Asphalt base (without gravel) | 1 in 25 | 1 in 2 |
| Coal-tar base (gravelled) | 1 in 50 ⁽¹⁾ | 1 in 25 |
| Cold process | 1 in 25 | 1 in 1.33 |
| Asphalt Shingles | | |
| Normal application | 1 in 3 | no limit |
| Low slope application | 1 in 6 | no limit |
| Roll Roofing | | |
| Smooth and mineral surfaced | 1 in 4 | no limit |
| 480 mm wide selvage asphalt roofing | 1 in 6 | no limit |
| Cold application felt | 1 in 50 | 1 in 1.33 |
| Wood Shingles | 1 in 4 | no limit |
| Handsplit Shakes | 1 in 3 | no limit |
| Asbestos-Cement Corrugated sheets | 1 in 4 | no limit |
| Corrugated Metal roofing | 1 in 4 | no limit |
| Sheet Metal shingles | 1 in 4 | no limit |
| Slate shingles | 1 in 2 | no limit |
| Clay Tile | 1 in 2 | no limit |
| Glass Fibre Reinforced polyester Roofing Panels | 1 in 4 | no limit |
| Column 1 | 2 | 3 |

Note to Table 9.26.3.1.:⁽¹⁾ See Sentences 9.26.3.1.(2) and (3).

(2) Asphalt and gravel or coal tar and gravel roofs may be constructed with lower slopes than required in Sentence (1) when effective drainage is provided by roof drains located at the lowest points on the roofs.

(3) Sheet metal roof cladding systems specifically designed for low-slope applications are permitted to be installed with lower slopes than required in Sentence (1).

9.26.4. Flashing at Intersections**9.26.4.1. Materials**

- (1) Sheet metal flashing shall consist of not less than
 - (a) 1.73 mm thick sheet lead,
 - (b) 0.33 mm thick galvanized steel,
 - (c) 0.46 mm thick copper,
 - (d) 0.46 mm thick zinc, or
 - (e) 0.48 mm thick aluminum.

9.26.4.2. Valley Flashing

(1) Where sloping surfaces of shingled roofs intersect to form a valley, the valley shall be flashed.

(2) Closed valleys shall not be used with rigid shingles on slopes of less than 1 in 1.2.

(3) Closed valley flashing shall consist of sheet metal, self sealing composite membranes consisting of polyethylene and bituminous material or one layer of either Type S smooth surface roll roofing or Type M mineral surface roll roofing (mineral surface down) not less than 600 mm wide, and nails shall not penetrate the flashing within 75 mm of its edge or 124 mm of the bottom of the valley centreline.

(4) Open valleys shall be flashed with not less than

- (a) one layer of sheet metal not less than 600 mm wide, or
- (b) 2 layers of roll roofing.

(5) The bottom layer of roofing required in Sentence (4) shall consist of not less than Type S smooth roll roofing or Type M mineral surface roll roofing (mineral surface down) not less than 457 mm wide, centred in the valley and fastened with nails spaced not more than 450 mm o.c. located 25 mm away from the edges.

(6) The top layer of roofing required in Sentence (4) shall consist of not less than Type M mineral surface roll roofing (mineral surface up), 914 mm wide, centred in the valley, applied over a 100 mm wide strip of cement along each edge of the bottom layer, and fastened with a sufficient number of nails to hold it in place until the shingles are applied.

9.26.4.3. Intersection of Shingle Roofs and Masonry

(1) The intersection of shingle roofs and masonry walls or chimneys shall be protected with flashing.

(2) Counter flashing required in Sentence (1) shall be embedded not less than 25 mm in the masonry and shall extend not less than 150 mm down the masonry and lap the lower flashing not less than 100 mm.

(3) Flashing along the slopes of a roof described in Sentence (1) shall be stepped so that there is not less than a 75 mm head lap in both the lower flashing and counter flashing.

(4) Where the roof described in Sentence (1) slopes upwards from the masonry, the flashing shall extend up the roof slope to a point equal in height to the flashing on the masonry, but not less than 1.5 times the shingle exposure.

9.26.4.4. Intersection of Shingle Roofs and Walls Other Than Masonry

(1) The intersection of shingle roofs and walls clad with other than masonry shall be protected with flashing.

(2) Flashing required in Sentence (1) shall be installed so that it extends up the wall not less than 75 mm behind the sheathing paper, and extends not less than 75 mm horizontally.

(3) Along the slope of the roof, the flashing required in Sentence (1) shall be stepped with not less than a 75 mm head lap.

9.26.4.5. Intersection of Built-Up Roofs and Masonry

(1) The intersection of built-up roofs with masonry walls or chimneys shall have a cant strip at the intersection and a roofing membrane shall be mopped over the cant strip and not less than 150 mm up the wall.

(2) Counter flashing installed over the intersection referred to in Sentence (1) shall be embedded not less than 25 mm in the masonry, and shall be of sufficient length to extend down not less than 150 mm, lapping the membrane on the masonry not less than 100 mm.

9.26.4.6. Intersection of Built-Up Roofs and Walls other than Masonry

(1) The intersection of built-up roofs with walls clad with other than masonry shall have a cant strip at the intersection.

(2) The roofing membrane shall be mopped over the cant strip referred to in Sentence (1).

(3) Flashing plies shall extend not less than 150 mm up the wall referred to in Sentence (1) behind the sheathing paper.

9.26.4.7. Chimney Saddles

(1) Except as otherwise permitted in Sentence (5), *chimney* saddles shall be installed where the upper side of a *chimney* on a sloping roof is more than 750 mm wide.

(2) *Chimney* saddles shall be covered with sheet metal or roofing material of equivalent weight and quality equivalent to the roofing.

(3) Saddles shall be flashed where they intersect the roof.

(4) The intersection of the saddle and the *chimney* shall be flashed and counterflashed as in Article 9.26.4.3.

(5) A *chimney* saddle need not be installed if the intersection between the *chimney* and roof is protected by sheet metal flashing that extends up the *chimney* to a height equal to at least one sixth the width of the *chimney*, but not less than 150 mm, and up the roof slope to a point equal in height to the flashing on the *chimney*, but not less than 1.5 times the shingle exposure.

(6) Flashing described in Sentence (5) at the *chimney* shall be counterflashed as required by Article 9.26.4.3.

9.26.5. Eave Protection for Shingles and Shakes

9.26.5.1. Required Eave Protection

(1) Except as provided in Sentence (2), eave protection shall be provided on shingle, shake or tile roofs, extending from the edge of the roof a minimum of 900 mm up the roof slope to a line not less than 300 mm inside the inner face of the exterior wall.

(2) Eave protection is not required

(a) over unheated garages, carports and porches,

(b) where the roof overhang exceeds 900 mm measured along the roof slope from the edge of the roof to the inner face of the exterior wall,

(c) on roofs of asphalt shingles installed in accordance with Subsection 9.26.8.,

(d) on roofs with slopes of 1 in 1.5 or greater, or

(e) in regions with 3 500 or fewer degree-days.

9.26.5.2. Materials

(1) Eave protection shall be laid beneath the starter strip and shall consist of

(a) No. 15 asphalt-saturated felt laid in two plies lapped 480 mm and cemented together with lap cement,

(b) Type M or S roll roofing laid with not less than 100 mm head and end laps cemented together with lap cement,

(c) glass fibre or polyester fibre coated base sheets, or

(d) self-sealing composite membranes consisting of modified bituminous coated material.

9.26.6. Underlay Beneath Shingles

9.26.6.1. Materials

(1) Except as required in Sentence (2), when underlay is used beneath shingles, it shall be

(a) asphalt-saturated sheathing paper weighing not less than 0.195 kg/m², or

(b) No. 15 plain or perforated asphalt-saturated felt.

(2) Underlay used beneath wood shingles shall be breather type.

9.26.6.2. Installation

(1) When used with shingles, underlay shall be installed parallel to the eaves with head and end lap of not less than 50 mm.

(2) The top edge of each strip referred to in Sentence (1) shall be fastened with sufficient roofing nails to hold it in place until the shingles are applied.

(3) The underlay referred to in Sentence (1) shall overlap the eave protection by not less than 100 mm.

9.26.7. Asphalt Shingles on Slopes of 1 in 3 or Greater

9.26.7.1. Coverage

(1) Coverage shall be not less than 2 thicknesses of shingle over the entire roof, disregarding cutouts.

9.26.7.2. Starter Strip

(1) A starter strip shall be installed along the lower edge of the roof so that it extends approximately 12 mm beyond the eaves and rake of the roof and fastened along the bottom edge with nails spaced not more than 300 mm o.c.

(2) Starter strips shall be at least Type M mineral-surfaced roll roofing not less than 300 mm wide, or shingles of the same weight and quality as those used as a roof covering with tabs facing up the roof slope.

(3) Starter strips need not be provided where eave protection of not less than Type M mineral-surfaced roll roofing is provided or self-sealing composite membranes consisting of polyethylene and bituminous material is provided.

9.26.7.3. Head Lap

(1) Shingles shall have a head lap of not less than 50 mm.

9.26.7.4. Fasteners

(1) Except as provided in Sentence (2), shingles shall be fastened with at least 4 nails or staples for 1 000 mm wide shingles so that no nails or staples are exposed.

(2) Where staples with an 11 mm crown are used, shingles shall be fastened with at least 6 staples.

(3) Fasteners may be reduced for narrower shingles in proportion to the width of the shingle or when shingles incorporating interlocking devices are used.

(4) Fasteners referred to in Sentences (1) and (2) shall be located 25 mm to 40 mm from each end of each strip shingle with other fasteners equally spaced between them.

(5) Fasteners referred to in Sentences (1) and (2) shall be located not less than 12 mm above the tops of the cutouts.

9.26.7.5. Securing of Tabs

(1) Shingle tabs shall be secured by a spot of plastic cement not exceeding 25 mm diam under the centre of each tab or by interlocking devices or self-sealing strips.

9.26.7.6. Hips and Ridges

(1) Shingles on hips and ridges shall be applied so they extend not less than 100 mm on either side of the hip or ridge, and shall be lapped not less than 150 mm.

(2) Shingles referred to in Sentence (1) shall be fastened with nails or staples on each side located not more than 25 mm from the edge and 25 mm above the butt of the overlying shingle.

9.26.7.7. Eave Protection

(1) Eave protection shall conform to Subsection 9.26.5.

9.26.7.8. Flashing

(1) Flashing shall conform to Subsection 9.26.4.

9.26.8. Asphalt Shingles on Slopes of Less Than 1 in 3**9.26.8.1. Coverage**

(1) Except for the first 2 courses, coverage shall be not less than 3 thicknesses of shingle over the entire roof, disregarding cutouts.

9.26.8.2. Starter Strip

(1) A starter strip shall be installed as in Article 9.26.7.2.

(2) Starter strips required in Sentence (1) shall be laid in a continuous band of cement not less than 200 mm wide.

9.26.8.3. Securing of Tabs

(1) Shingle tabs shall be secured with cold application cement applied at the rate of not less than 0.5 L/m² of cemented area, or hot application asphalt applied at the rate of 1 kg/m² of cemented area.

9.26.8.4. Securing of Shingle Courses

(1) The first course of shingles shall be secured by a continuous band of cement along the eaves applied so that the width of the band equals the shingle exposure plus 100 mm and the band is located not less than 50 mm above the lower edge of the starter strip.

(2) The succeeding courses of shingles shall be secured by a continuous band of cement applied so that the width of the band equals the shingle exposure plus 50 mm.

(3) The band required in Sentence (2) shall be located not less than 25 mm nor more than 50 mm above the butt of the overlying course of shingles.

9.26.8.5. Hips and Ridges

(1) Shingles on hips and ridges shall be not less than 300 mm wide applied to provide triple coverage.

(2) Shingles referred to in Sentence (1) shall be cemented to the roof shingles and to each other with a coat of cement 25 mm from the edges of the shingles and fastened with nails or staples located 40 mm above the butt of the overlying shingle and 50 mm from each edge.

9.26.8.6. Flashing

(1) Flashing shall conform to Subsection 9.26.4.

9.26.8.7. Fastening

(1) Shingles shall be fastened in accordance with Article 9.26.7.4.

9.26.9. Wood Roof Shingles**9.26.9.1. Decking**

(1) Decking for wood shingled roofs may be continuous or spaced.

9.26.9.2. Grade

(1) Western red cedar shingles shall be not less than No. 2 grade.

(2) Eastern white cedar shingles shall be not less than B (clear) grade.

9.26.9.3. Size

(1) Wood shingles shall be not less than 400 mm long and not less than 75 mm nor more than 350 mm wide.

9.26.9.4. Spacing and Joints

(1) Shingles shall be spaced approximately 6 mm apart and offset at the joints in adjacent courses not less than 40 mm so that joints in alternate courses are staggered.

9.26.9.5. Fastening

(1) Shingles shall be fastened with 2 nails or staples located approximately 20 mm from the sides of the shingle and 40 mm above the exposure line.

9.26.9.6. Exposure

(1) The exposure of wood roof shingles shall conform to Table 9.26.9.6.

Table 9.26.9.6.

Exposure of Wood Shingles

Forming Part of Sentence 9.26.9.6.(1)

| Roof Slope | Maximum Exposure, mm | | | | | |
|------------|---|-----|-----|---|-----|-----|
| | No. 1 or A Grade Length of Shingle, mm | | | No. 2 or B Grade Length of Shingle, mm | | |
| | 400 | 450 | 600 | 400 | 450 | 600 |
| < 1 in 3 | 100 | 115 | 165 | 90 | 100 | 140 |
| ≥ 1 in 3 | 125 | 140 | 190 | 100 | 115 | 165 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 |

9.26.9.7. Flashing

(1) Flashing shall conform to Subsection 9.26.4.

9.26.9.8. Eave Protection

(1) Eave protection shall conform to Subsection 9.26.5.

9.26.10. Handsplit Roof Shakes**9.26.10.1. Size and Thickness**

(1) Shakes shall be not less than 450 mm long and not less than 100 mm nor more than 350 mm wide with a butt thickness of not more than 32 mm and not less than 9 mm.

9.26.10.2. Underlay

(1) Where eave protection is not provided, an underlay conforming to the requirements in Article 9.26.6.1. for wood shingles shall be laid as a strip not less than 900 mm wide along the eaves.

(2) A strip of material similar to that described in Sentence (1) not less than 450 mm wide shall be interlayed between each course of shakes with the bottom edge of the strip positioned above the butt line at a distance equal to double the exposure of the shakes.

(3) Interlayed strips in Sentence (2) shall be lapped at least 150 mm at hips and ridges in a manner that will prevent water from reaching the roof sheathing.

9.26.10.3. Spacing and Joints

(1) Shakes shall be spaced 6 mm to 9 mm apart and the joints in one course shall be separated not less than 40 mm from joints in adjacent courses.

9.26.10.4. Fastening

(1) Shakes shall be fastened with nails located approximately 20 mm from the sides of the shakes and 40 mm above the exposure line.

9.26.10.5. Exposure

(1) The exposure of wood shakes shall not exceed

(a) 190 mm for shakes not less than 450 mm long, and

(b) 240 mm for shakes not less than 600 mm long.

9.26.10.6. Flashing

(1) Flashing shall conform to Subsection 9.26.4.

9.26.10.7. Eave Protection

(1) Eave protection shall conform to Subsection 9.26.5.

9.26.11. Built-Up Roofs**9.26.11.1. Quantity of Materials**

(1) The quantities of bituminous materials used on built-up roofs shall conform to Table 9.26.11.1.

Table 9.26.11.1.

Quantities of Bitumen for Built-Up Roofs

Forming Part of Sentence 9.26.11.1.(1)

| Type of Roof | Amount of Bitumen per Square Metre of Roof Surface | |
|---|--|------------------------------------|
| | Mopping Coats Between Layers | Flood Coat |
| Asphalt and aggregate Coal-tar and aggregate | 1 kg 1.2 kg | 3 kg 3.6 |
| Cold process roofing | 0.75 L cold process cement | 2 L cold process top coating |
| Column 1 | 2 | 3 |

9.26.11.2. Coal-Tar and Asphalt Products

(1) Coal-tar products and asphalt products shall not be used together in built-up roof construction.

9.26.11.3. Roof Felts

(1) Bitumen roofing felts shall be not less than No. 15 felt.

9.26.11.4. Aggregate Surfacing

(1) Aggregate used for surfacing built-up roofs shall be clean, dry and durable and shall consist of particles of gravel, crushed stone or air-cooled blast furnace slag having a size of from 6 mm to 15 mm.

(2) The minimum amount of aggregate surfacing per square metre of roof surface shall be 15 kg gravel or crushed stone or 10 kg crushed slag.

9.26.11.5. Flashing

(1) Flashing shall conform to Subsection 9.26.4.

9.26.11.6. Number of Layers

(1) Built-up roofing shall consist of at least 3 mopped-down layers of roofing felt flood coated with bitumen.

9.26.11.7. Installation of Layers

(1) In hot process applications each layer of bitumen-saturated felt shall be laid while the bitumen is hot, with each layer overlapping the previous one.

(2) The full width under each lap referred to in Sentence (1) shall be coated with bitumen so that in no place does felt touch felt.

(3) Felt shall be laid free of wrinkles and shall be rolled directly into the hot bitumen and broomed forward and outward from the centre to ensure complete adhesion.

9.26.11.8. Roofing over Wood-Based Sheathing

(1) Except as permitted in Sentence (2), built-up roofing applied over wood, plywood, OSB or waferboard roof sheathing shall be laid over an additional base layer of felt laid dry over the entire roof deck with at least a 50 mm headlap and a 50 mm sidelap between each sheet.

(2) Where plywood, OSB or waferboard roof sheathing is used, the dry layer of felt required in Sentence (1) may be omitted when the joints are taped and the sheathing is primed with asphalt.

9.26.11.9. Attachment to Decking

(1) Roofing shall be securely attached to the decking or where insulation is applied above the deck, the insulation shall be securely attached to the deck before the first layer of felt is fastened to the insulation.

9.26.11.10. Cant Strips

(1) Except as permitted in Sentence (4), a cant strip shall be provided at the edges of roofs.

(2) No fewer than 2 plies of the roofing membrane shall be carried over the top of the cant strip.

(3) Flashing shall extend over the top of the cant strip and be shaped to form a drip.

(4) The cant strip required in Sentence (1) may be omitted where a gravel stop is provided at the edge of roofs.

(5) The roofing membranes shall be carried over the edge of the roof before the gravel stop is fastened and 2 plies of roofing membrane mopped to the top surface of the gravel stop referred to in Sentence (4) before the flood coat is applied.

(6) The gravel stop referred to in Sentence (4) shall extend over the edge of the roof to form a drip or shall be flashed so that the flashing extends over the edge to form a drip.

9.26.12. Salvage Roofing

9.26.12.1. Double Coverage

(1) Wide salvage asphalt roofing shall provide double coverage over the entire roof surface.

9.26.12.2. Joints

(1) Plies of salvage roofing shall be cemented together to ensure a water-tight joint.

9.26.13. Sheet Metal Roofing

9.26.13.1. Thickness

(1) Sheet metal roofing shall be not less than

(a) 0.33 mm thick galvanized steel,

(b) 0.46 mm thick copper,

(c) 0.46 mm thick zinc, or

(d) 0.48 mm thick aluminum.

9.26.14. Glass Reinforced Polyester Roofing

9.26.14.1. Support

(1) Where glass reinforced polyester roofing panels are not supported by roof decking but span between spaced supports, the panels shall be designed to support the specified roof loads.

9.26.15. Hot Applied Rubberized Asphalt Roofing

9.26.15.1. Installation

(1) Hot applied rubberized asphalt roofing shall be installed in accordance with CGSB 37-GP-51M, "Application of Rubberized Asphalt, Hot Applied, for Roofing and Waterproofing".

9.26.16. Polyvinyl Chloride Sheet Roofing

9.26.16.1. Installation

(1) Polyvinyl chloride sheet applied roofing membrane shall be installed in accordance with CGSB 37-GP-55M, "Application of Sheet Applied Flexible Polyvinyl Chloride Roofing Membrane".

9.26.17. Concrete Roof Tiles

9.26.17.1. Coverage

(1) Concrete roof tiles shall be installed according to CAN/CSA-A220.1, "Installation of Concrete Roof Tiles."

9.26.18. Downspouts and Roof Drains

9.26.18.1. Roof Drains

(1) When roof drains are provided they shall conform to Part 7.

9.26.18.2. Downspouts

(1) Where downspouts are provided and are not connected to a sewer, extensions shall be provided to carry rainwater away from the building in a manner which will prevent soil erosion.

Section 9.27. Cladding

9.27.1. Scope

9.27.1.1. Application

(1) This Section applies to exterior wall coverings of lumber, wood shingles, shakes, asbestos-cement shingles and sheets, plywood, OSB, waferboard, hardboard, asphalt shingles, vinyl, aluminum and steel including trim, soffits and flashing.

9.27.1.2. Stucco and Masonry Veneer

(1) Requirements for stucco shall conform to Section 9.28 and requirements for masonry veneer shall conform to Section 9.20.

9.27.1.3. Asphalt Shingles

(1) Where asphalt shingles are used as siding, they shall conform to the requirements in Section 9.26 for asphalt roof shingles.

9.27.2. General

9.27.2.1. Required Cladding

(1) Exterior walls shall be protected with cladding, including flashing, trim and other special purpose accessory pieces required for

the cladding system being used, to restrict the entry of rain and snow into the wall assembly.

9.27.2.2. Clearance from Ground

(1) Not less than a 200 mm clearance shall be provided between the finished ground level and siding that is adversely affected by moisture such as wood, plywood, OSB, waferboard and hardboard.

9.27.2.3. Clearance from Roof Surface

(1) Not less than a 50 mm clearance shall be provided between a roof surface and cladding that is adversely affected by moisture such as wood, plywood, OSB, waferboard and hardboard.

9.27.2.4. Insulating Asphalt Siding

(1) Insulating asphalt cladding shall be ventilated by not less than a 10 mm air space behind the cladding.

9.27.3. Flashing

9.27.3.1. Materials

(1) Flashing shall consist of not less than

- (a) 1.73 mm thick sheet lead,
- (b) 0.33 mm thick galvanized steel,
- (c) 0.46 mm thick copper,
- (d) 0.46 mm thick zinc,
- (e) 0.48 mm thick aluminum, or
- (f) 1.02 mm thick vinyl.

9.27.3.2. Installation

(1) Flashing shall be installed at every horizontal junction between 2 different exterior finishes, except where the upper finish overlaps the lower finish.

(2) Except as provided in Sentence (4), flashing shall be applied over exterior wall openings where the vertical distance from the bottom of the eave to the top of the trim is more than one-quarter of the horizontal overhang of the eave.

(3) Flashing shall be installed so that it extends upwards not less than 50 mm behind the sheathing paper and forms a drip on the outside edge.

(4) Where a window or exterior door is designed to be installed without head flashing, the exterior flange of the window or door frame shall be bedded into a non-hardening type caulking material and the exterior flange screwed down over the caulking material to the wall framing to form a waterproof joint.

9.27.4. Caulking

9.27.4.1. Required Caulking

(1) Caulking shall be provided where required to prevent the entry of water into the structure.

(2) Caulking shall be provided between masonry, siding or stucco and the adjacent door and window frames or trim, including sills unless such locations are completely protected from the entry of rain.

(3) Caulking shall be provided at vertical joints between different cladding materials unless the joint is suitably lapped or flashed to prevent the entry of rain.

9.27.4.2. Materials

(1) Caulking shall be

- (a) a non-hardening type suitable for exterior use,
- (b) selected for its ability to resist the effects of weathering, and
- (c) compatible with and adhere to the substrate to which it is applied.

(2) Caulking shall conform to

- (a) CGSB 19-GP-5M, "Sealing Compound, One Component, Acrylic Base, Solvent Curing",
- (b) CAN/CGSB-19.13-M, "Sealing Compound, One Component, Elastomeric, Chemical Curing",
- (c) CGSB 19-GP-14M, "Sealing Compound, One Component, Butyl- Polyisobutylene Polymer Base, Solvent Curing", or
- (d) CAN/CGSB-19.24-M, "Multi-Component, Chemical Curing Sealing Compound".

9.27.5. Attachment of Cladding

9.27.5.1. Attachment

(1) Except as permitted in Sentences (2) to (7), cladding shall be nailed to the framing members, furring members or to blocking between the framing members.

(2) Vertical lumber and stucco lath or reinforcing are permitted to be attached to sheathing only where the sheathing consists of not less than

- (a) 14.3 mm lumber,
- (b) 12.5 mm plywood, or
- (c) 12.5 mm OSB or waferboard.

(3) Vertically applied metal siding and wood shingles and shakes are permitted to be attached to the sheathing only where the sheathing consists of not less than

- (a) 14.3 mm lumber,
- (b) 7.5 mm plywood, or
- (c) 7.5 mm OSB or waferboard.

(4) Asbestos-cement shingles are permitted to be attached to the sheathing only when the sheathing consists of not less than

- (a) 14.3 mm lumber,
- (b) 9.5 mm plywood, or
- (c) 9.5 mm OSB or waferboard.

(5) Where wood shingles or shakes are applied to sheathing which is not suitable for attaching the shingles or shakes, the shingles or shakes may be attached to a wood lath not less than 38 mm by 9.5 mm thick securely nailed to the framing and applied as described in Article 9.27.7.5.

(6) Where asbestos-cement shingles are applied to sheathing that is not suitable for attaching the shingles, the shingles may be fastened to a wood lath not less than 89 mm by 9.5 mm thick securely nailed to the framing.

(7) Lath referred to in Sentence (6) shall be applied so that it overlaps the preceding shingle course by not less than 20 mm.

9.27.5.2. Blocking

(1) Blocking for the attachment of cladding shall be not less than 38 mm by 38 mm lumber securely nailed to the framing and spaced not more than 600 mm o.c.

9.27.5.3. Furring

(1) Except as permitted in Sentences 9.27.5.1.(5) and (6), furring for the attachment of cladding shall be not less than 19 mm by 38 mm lumber when applied over sheathing.

(2) When applied without sheathing, furring referred to in Sentence (1) shall be not less than

(a) 19 mm by 64 mm lumber on supports spaced not more than 400 mm o.c., or

(b) 19 mm by 89 mm on supports spaced not more than 600 mm o.c.

(3) Furring referred to in Sentence (1) shall be

(a) securely fastened to the framing, and

(b) spaced not more than 600 mm o.c.

9.27.5.4. Size and Spacing of Fasteners

(1) Nail or staple size and spacing for the attachment of cladding and trim shall conform to Table 9.27.5.4.

Table 9.27.5.4.

Attachment of Cladding

Forming Part of Sentence 9.27.5.4.(1)

| Type of Cladding | Minimum Nail or Staple Length, mm | Minimum Number of Nails or Staples | Maximum Nail or Staple Spacing |
|--|-----------------------------------|------------------------------------|-----------------------------------|
| Wood trim | 51 | — | 600 mm (o.c.) |
| Lumber siding or horizontal siding made from sheet metal | 51 | — | 600 mm (o.c.) |
| Metal siding | 38 | — | 600 mm (o.c.) (nailed to framing) |
| Handsplit wood shakes up to 200 mm in width over 200 mm in width | 51 | 2 | — |
| | 51 | 3 | — |

| | | | |
|--|----|---|--|
| Wood shingles and machine grooved shakes 200 mm in width over 200 mm in width | 32 | 2 | — |
| | 32 | 3 | — |
| Asbestos-cement shingles | 32 | 2 | — |
| Panel or sheet type cladding up to 7 mm thick more than 7 mm thick | 38 | — | 150 mm along edges 300 mm along intermediate supports |
| | 51 | — | |
| Column 1 | 2 | 3 | 4 |

9.27.5.5. Fastener Materials

(1) Nails or staples for the attachment of cladding and wood trim shall be corrosion-resistant and shall be compatible with the cladding material.

9.27.5.6. Expansion and Contraction

(1) Fasteners for metal or vinyl cladding shall be positioned to permit expansion and contraction of the siding.

9.27.5.7. Penetration of Fasteners

(1) Fasteners for shakes and shingles shall penetrate through the nail-holding base or not less than 19 mm into the framing.

(2) Fasteners for cladding other than that described in Sentence (1) shall penetrate through the nail-holding base or not less than 25 mm into the framing.

9.27.6. Lumber Siding

9.27.6.1. Materials

(1) Lumber siding shall be sound, free of knot holes, loose knots, through checks or splits.

9.27.6.2. Thickness and Width

(1) Drop, rustic, novelty, lapped board and vertical wood siding shall be not less than 14.3 mm thick and not more than 286 mm wide.

(2) Bevel siding shall be

(a) not less than 5 mm thick at the top, and

(b) not less than

(i) 12 mm thick at the butt for sidings 184 mm or less in width, and

(ii) 14.3 mm thick at the butt for sidings wider than 184 mm.

(3) Bevel siding shall be not more than 286 mm wide.

9.27.6.3. Joints

(1) Lumber siding shall prevent water from entering at the joints by the use of lapped or matched joints or by vertical wood battens.

(2) Siding shall overlap not less than 1 mm per 16 mm width of lumber, but not less than

- (a) 9.5 mm for matched siding,
- (b) 25 mm for lapped bevel siding, or
- (c) 12 mm for vertical battens.

9.27.7. Wood Shingles and Machine Grooved Shakes

9.27.7.1. Materials

(1) Shingles and shakes shall conform to

- (a) CSA O118.1-M, "Western Red Cedar Shingles and Shakes," or
- (b) CSA O118.2-M, "Eastern White Cedar Shingles".

(2) Western red cedar shakes shall be at least No. 1 grade and shingles at least No. 2 grade, except that No. 3 grade may be used for the lower course of double course applications.

(3) Eastern white cedar shakes shall be at least B (clear) grade, except that C grade may be used for the lower course of double course applications.

9.27.7.2. Width

(1) Shingles and shakes shall be not less than 65 mm nor more than 350 mm wide.

9.27.7.3. Fasteners

(1) Shingles or shakes shall be fastened with nails located approximately 20 mm from each edge and not less than 25 mm above the exposure line for single-course applications, or approximately 50 mm above the butt for double-course applications.

9.27.7.4. Offsetting of Joints

(1) In single-course application, joints in succeeding courses shall be offset at least 40 mm so that joints in any 2 of 3 consecutive courses are staggered.

(2) In double-course application, joints in the outer course shall be offset from joints in the under-course by not less than 40 mm, and joints in succeeding courses shall be offset not less than 40 mm.

9.27.7.5. Fastening to Lath

(1) When lath is used with double-course application, it shall be spaced according to the exposure and securely fastened to the framing.

(2) The butts of the under-course of the application referred to in Sentence (1) shall rest on the top edge of the lath.

(3) The outer course of the application referred to in Sentence (1) shall be fastened to the lath with nails of sufficient length to penetrate through the lath.

(4) The butts of the shingles or shakes shall be so located that they project not less than 12 mm below the bottom edge of the lath referred to in Sentence (1).

(5) If wood lath is not used, the butts of the under-course shingles or shakes of the application referred to in Sentence (1) shall be located 12 mm above the butts of the outer course.

9.27.7.6. Exposure and Thickness

(1) The exposure and butt thickness of shingles shall conform to Table 9.27.7.6.

Table 9.27.7.6.

Exposure and Thickness of Wood Shingles and Machine Grooved Shakes

Forming Part of Sentence 9.27.7.6.(1)

| Shake or Shingle Length, mm | Maximum Exposure, mm | | Minimum Butt Thickness, mm |
|-----------------------------|----------------------|-----------------|----------------------------|
| | Single Coursing | Double Coursing | |
| 400 | 190 | 305 | 10 |
| 450 | 216 | 356 | 11 |
| 600 | 292 | 406 | 13 |
| Column 1 | 2 | 3 | 4 |

9.27.8. Asbestos-Cement Shingles and Sheets

9.27.8.1. Material Standards

(1) Asbestos-cement shingles and sheets shall conform to

- (a) CAN/CGSB-34.4-M, "Siding, Asbestos Cement, Shingles and Clapboards",
- (b) CAN/CGSB-34.5-M, "Sheets, Asbestos Cement, Corrugated",
- (c) CAN/CGSB-34.14-M, "Sheets, Asbestos Cement, Decorative",
- (d) CAN/CGSB-34.16, "Sheets, Asbestos Cement, Flat, Fully Compressed",
- (e) CAN/CGSB-34.17-M, "Sheets, Asbestos Cement, Flat, Semi-compressed", or
- (f) CAN/CGSB-34.21-M, "Panels, Sandwich Asbestos, Cement and Insulating Cores".

9.27.8.2. Weight and Thickness

(1) Asbestos-cement shingles shall weigh not less than 8.06 kg/m².

(2) Asbestos-cement sheet shall be not less than

- (a) 4.75 mm thick where applied to studs spaced not more than 400 mm o.c., and,
- (b) 6 mm thick where applied to studs spaced not more than 600 mm o.c.

(3) Where applied over sheathing, the thickness of asbestos-cement sheet shall be not less than 3.15 mm.

9.27.8.3. Fastening of Shingles

(1) Asbestos-cement shingles shall be fastened with nails located not less than 25 mm above the exposure line.

9.27.8.4. Joints of Shingles

(1) Asbestos-cement shingles shall be installed so that vertical joints in succeeding courses are staggered.

(2) Asphalt-coated backer strips shall be installed behind each vertical joint.

(3) Shingles referred to in Sentence (1) shall have not less than a 25 mm head lap.

9.27.8.5. Joints in Panels

(1) Vertical joints of asbestos-cement panels shall be protected with batten strips, caulking or other suitable method.

(2) Horizontal joints of asbestos-cement panels shall be lapped, flashed, caulked or otherwise suitably protected.

9.27.9. Plywood

9.27.9.1. Material Standards

(1) Plywood cladding shall be exterior type conforming to

- (a) CSA O115-M, "Hardwood and Decorative Plywood",
- (b) CSA O121-M, "Douglas Fir Plywood",
- (c) CSA O151-M, "Canadian Softwood Plywood", or
- (d) CSA O153-M, "Poplar Plywood".

9.27.9.2. Thickness

(1) Plywood cladding shall be not less than 6 mm thick when applied directly to sheathing.

(2) When applied directly to framing or over furring strips, plywood cladding thickness shall conform to Table 9.27.9.2.

Table 9.27.9.2.

Minimum Plywood Cladding Thickness

Forming Part of Sentence 9.27.9.2.(2)

| Spacing of Supports, mm | Minimum Thickness, mm | |
|-------------------------|---------------------------------|-------------------------------------|
| | Face Grain Parallel to Supports | Face Grain Right Angles to Supports |
| 400 | 8 | 6 |
| 600 | 11 | 8 |
| Column 1 | 2 | 3 |

(3) The thickness of grooved or textured plywood shall be measured at the point of least thickness.

9.27.9.3. Edge Treatment

(1) The edges of plywood cladding shall be treated with a suitable paint or sealer.

9.27.9.4. Panel Siding

(1) Plywood applied in panels shall have all edges supported.

(2) Not less than a 2 mm gap shall be provided between panels referred to in Sentence (1).

(3) Vertical joints in cladding referred to in Sentence (1) shall be protected with batten strips or caulking when the plywood joints are not matched.

(4) Horizontal joints in cladding referred to in Sentence (1) shall be lapped not less than 25 mm or shall be suitably flashed.

9.27.9.5. Lapped Strip Siding

(1) Plywood applied in horizontal lapped strips shall have not less than a 2 mm gap provided at the butted ends, which shall be caulked.

(2) The horizontal joints of siding described in Sentence (1) shall be lapped not less than 25 mm.

(3) Wedges shall be inserted under all vertical butt joints and at all corners when horizontal lapped plywood is applied without sheathing.

9.27.10. Hardboard

9.27.10.1. Material Standards

(1) Factory-finished hardboard cladding shall conform to CAN/CGSB-11.5M, "Hardboard, Precoated, Factory-Finished, for Exterior Cladding".

(2) Hardboard cladding which is not factory finished shall conform to Types 1, 2 or 5 in CAN/CGSB-11.3-M, "Hardboard".

9.27.10.2. Thickness

(1) Type 1 or 2 hardboard cladding shall be not less than

- (a) 6.0 mm thick when applied over sheathing that provides continuous support, and
- (b) 7.5 mm thick when applied to furring or framing members not more than 400 mm o.c.

(2) Type 5 hardboard cladding shall be not less than 9.0 mm thick when applied over sheathing that provides continuous support or over furring or framing members spaced not more than 400 mm o.c.

(3) Where hardboard cladding is grooved, the grooves shall not extend more than 1 500 mm into the required thickness.

9.27.10.3. Panel Siding

(1) Hardboard cladding applied in panels shall have all edges supported with not less than a 5 mm gap provided between sheets.

(2) Vertical joints in cladding described in Sentence (1) shall be protected with batten strips or caulking when the joints are not matched.

(3) Horizontal joints in cladding described in Sentence (1) shall be lapped not less than 25 mm or shall be suitably flashed.

9.27.10.4. Lapped Strip Siding

(1) Hardboard applied in horizontal lapped strips shall have not less than a 5 mm gap provided at the butted ends, which shall be caulked or otherwise protected with suitable mouldings.

(2) The horizontal joints of siding described in Sentence (1) shall overlap not less than 1 mm per 16 mm width of siding board but not less than 9.5 mm for matched joint siding or 25 mm for lapped siding.

9.27.10.5. Clearance

(1) Not less than 3 mm clearance shall be provided between hardboard siding and door or window frames.

9.27.11. OSB and Waferboard**9.27.11.1. Material Standard**

(1) OSB and waferboard cladding shall conform to CAN3-O437.0, "OSB and Waferboard".

9.27.11.2. Thickness

(1) OSB conforming to O-2 grade shall be not less than 6.0 mm thick where applied directly to sheathing.

(2) OSB conforming to O-2 grade applied directly to framing or over furring strips, shall conform to the thickness shown for plywood in Table 9.27.9.2.

(3) OSB conforming to O-1 grade and waferboard conforming to R-1 grade shall be not less than 7.9 mm thick where applied directly to sheathing.

(4) Where applied directly to framing or over furring strips, OSB conforming to O-1 grade and waferboard conforming to R-1 grade shall be not less than

(a) 9.5 mm thick on supports spaced not more than 400 mm o.c., and

(b) 12.7 mm thick on supports spaced not more than 600 mm o.c.

9.27.11.3. Panel Cladding

(1) OSB and waferboard applied in panels shall have all edges supported and treated with a primer or sealer.

(2) Not less than a 3 mm gap shall be provided between sheets in cladding described in Sentence (1).

(3) Vertical joints in cladding described in Sentence (1) shall be protected with batten strips or caulking when the OSB and waferboard joints are not matched.

(4) Horizontal joints in cladding described in Sentence (1) shall be lapped not less than 25 mm or shall be suitably flashed.

9.27.11.4. Clearance

(1) At least a 3 mm clearance shall be provided between OSB and waferboard cladding and door or window frames.

9.27.12. Metal Siding**9.27.12.1. Material Standards**

(1) Horizontal and vertical strip steel siding, including flashing and trim accessories, shall conform to CAN/CGSB-93.4-M, "Galvanized Steel and Aluminum-Zinc Coated Steel Siding, Soffits and Fascia, Prefinished, Residential".

(2) Steel sheet cladding shall have a minimum thickness of 0.3 mm and conform to CAN/CGSB-93.3-M, "Prefinished Galvanized and Aluminum-Zinc Alloy Sheet, for Residential Use".

(3) Horizontal and vertical strip aluminum siding, including flashing and trim accessories, shall conform to CAN/CGSB-93.2-M, "Prefinished Aluminum Siding, Soffits and Fascia, for Residential Use".

(4) Aluminum sheet cladding shall conform to CAN/CGSB-93.1-M, "Sheet, Aluminum Alloy, Prefinished, Residential" and shall have a

thickness of not less than 0.58 mm, except that siding supported by backing or sheathing shall have a thickness of not less than 0.46 mm.

9.27.13. Vinyl Siding**9.27.13.1. Material Standard**

(1) Vinyl siding, including flashing and trim accessories, shall conform to CGSB 41-GP-24Ma, "Siding, Soffits and Fascia, Rigid Vinyl".

9.27.13.2. Attachment

(1) The attachment of vinyl siding shall conform to the requirements in Subsection 9.27.5. for metal siding.

Section 9.28. Stucco**9.28.1. General****9.28.1.1. Sheathing Beneath Stucco**

(1) Sheathing shall be provided beneath stucco applied over wood-frame walls except as permitted in Article 9.28.4.2.

(2) Where applied beneath stucco, sheathing shall conform to Subsection 9.23.16.

9.28.1.2. Lath and Reinforcing

(1) Stucco lath or reinforcing shall be used to attach stucco to any substrate other than masonry.

(2) Stucco lath or reinforcing shall be used to attach stucco to masonry where

(a) the masonry is soft-burned tile or brick of less strength than the stucco, or

(b) the masonry surface is not sound, clean and sufficiently rough to provide a good key.

(3) Stucco applied over *masonry chimneys* shall be reinforced.

9.28.1.3. Concrete Masonry Units

(1) Stucco finish shall not be applied over concrete masonry units less than one month old unless the units have been cured by the autoclave process.

9.28.1.4. Clearance over Ground Level

(1) Stucco shall be not less than 200 mm above finished ground level except when it is applied over concrete or masonry.

9.28.1.5. Flashing and Caulking

(1) Flashing and caulking used with stucco shall conform to Subsections 9.27.3. and 9.27.4., except that if aluminum flashing is used, it shall be separated from the stucco by an impervious membrane or coating.

9.28.2. Stucco Materials**9.28.2.1. Portland Cement**

(1) Portland cement shall conform to CAN/CSA-A5, "Portland Cement".

9.28.2.2. Aggregate

(1) Aggregate shall be clean, well-graded natural sand or sand manufactured from crushed stone, gravel or air-cooled blast furnace slag and shall contain no significant amounts of deleterious material.

(2) Aggregate grading shall conform to Table 9.28.2.2.

Table 9.28.2.2.**Aggregate Grading for Stucco**

Forming Part of Sentence 9.28.2.2.(2)

| Sieve Sizes, mm | % Passing | |
|-----------------|-----------|---------|
| | Maximum | Minimum |
| 4 | — | 100 |
| 2 | — | 90 |
| 1 | 90 | 60 |
| 0.5 | 60 | 45 |
| 0.25 | 30 | 10 |
| 0.125 | 5 | — |
| Column 1 | 2 | 3 |

9.28.2.3. Water

(1) Water shall be clean and free of significant amounts of deleterious material.

9.28.3. Fasteners**9.28.3.1. Materials**

(1) Fasteners for stucco lath or reinforcing shall be corrosion-resistant and of a material other than aluminum.

9.28.3.2. Nails and Staples

(1) Nails for stucco lath or reinforcing shall be not less than 3.2 mm diam with a head diameter of not less than 11.1 mm.

(2) Staples for stucco lath reinforcing shall be not less than 1.98 mm diam or thickness.

(3) Staples and nails for attaching stucco lath or reinforcing to vertical surfaces shall be of sufficient length to penetrate 25 mm into framing members or to the full depth of the sheathing where the sheathing is used for attachment.

(4) On horizontal surfaces nails for stucco lath or reinforcing shall be not less than 38 mm long.

9.28.4. Stucco Lath**9.28.4.1. Materials**

(1) Rib lath or expanded metal stucco mesh shall be

(a) copper-alloy steel coated with rust-inhibitive paint after fabrication, or

(b) galvanized.

(2) Woven or welded wire mesh shall be galvanized.

9.28.4.2. No Sheathing Required

(1) Sheathing need not be provided beneath stucco where not less than 1.19 mm diam galvanized wire is applied horizontally to the framing at vertical intervals not exceeding 150 mm, or where paper-backed welded wire metal lath is used.

9.28.4.3. Stucco Lath Specifications

(1) Stucco lath shall conform to Table 9.28.4.3.

Table 9.28.4.3.**Stucco Lath**

Forming Part of Sentence 9.28.4.3.(1)

| Location | Type of Lath | Minimum Diam. of Wire, mm | Maximum Mesh Opening | Minimum Mass, kg/m ² |
|------------------------------------|--|---------------------------|----------------------|---------------------------------|
| Vertical surfaces | Welded or woven wire | 1.19 | 25 mm | — |
| | | 1.35 | 38 mm | — |
| | | 1.60 | 51 mm | — |
| Horizontal surfaces ⁽¹⁾ | Stucco mesh reinforcing (expanded metal) | — | 25.8 cm ² | 0.98 |
| | 9.5 mm rib lath | — | — | 1.84 |
| | Cedar lath | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 |

9.28.4.4. Self-Furring Devices

(1) Stucco lath shall be held not less than 6 mm away from the backing by means of suitable self-furring devices.

9.28.4.5. Application of Stucco Lath

(1) Stucco lath shall be applied with the long dimension horizontal.

(2) Horizontal and vertical joints shall be lapped not less than 50 mm.

(3) End joints of stucco lath shall be staggered and shall occur over framing members.

(4) External corners of stucco lath shall be reinforced with a vertical strip of lath or reinforcing extending not less than 150 mm on both sides of the corner, or the lath or reinforcing shall extend around corners not less than 150 mm.

9.28.4.6. Fastening

(1) Stucco lath shall be fastened in conformance with Subsection 9.27.5.

(2) Fasteners on vertical surfaces shall be spaced not more than

(a) 150 mm o.c. vertically and 400 mm o.c. horizontally, or

(b) 100 mm o.c. vertically and 600 mm o.c. horizontally.

(3) Nailing patterns other than those required in Sentence (2) are permitted to be used provided there are not fewer than 20 fasteners per square metre of wall surface.

- (4) Fasteners on horizontal surfaces shall be spaced not more than
- (a) 150 mm o.c. along the framing members when members are spaced not more than 400 mm o.c., and
- (b) 100 mm o.c. along members when members are spaced not more than 600 mm o.c.

9.28.5. Stucco Mixes

9.28.5.1. Mixes

- (1) Stucco mixes shall conform to Table 9.28.5.1.

Table 9.28.5.1.

Stucco Mixes

Forming Part of Sentence 9.28.5.1.(1)

| Materials, volume | | | |
|-------------------|----------------|-----------|---|
| Portland Cement | Masonry Cement | Lime | Aggregate |
| 1 | — | 0.25 to 1 | 3.25 to 4 parts per part of cementitious material |
| 1 | 1 | — | |
| Column 1 | 2 | 3 | 4 |

9.28.5.2. Pigments

(1) Pigment if used shall consist of pure mineral oxides inert to the action of sun, lime and cement.

- (2) Pigment shall not exceed 6% of the portland cement by weight.

9.28.5.3. Mixing

(1) Materials shall be thoroughly mixed before and after water is added.

- (2) Stucco shall be applied not later than 3 h after the initial mixing.

9.28.6. Stucco Application

9.28.6.1. Low Temperature Conditions

- (1) The base for stucco shall be maintained above freezing.
- (2) Stucco shall be maintained at a temperature of not less than 10°C during application and for not less than 48 h afterwards.

9.28.6.2. Number of Coats and Total Thickness

(1) Stucco shall be applied with at least 2 base coats and one finish coat, providing a total thickness of not less than 15 mm, measured from the face of the lath or face of the masonry where no lath is used.

9.28.6.3. First Coat

(1) The first coat shall be not less than 6 mm thick, measured from the face of the lath or masonry, fully embedding the lath.

(2) The surface of the first coat shall be scored to provide a key with the second coat.

9.28.6.4. Second Coat

- (1) The second coat shall be not less than 6 mm thick.

(2) The surface of the second shall be lightly roughened to provide a key with the finish coat if the finish coat is other than stone dash.

9.28.6.5. Finish Coat

(1) When the finish coat is other than stone dash, the base shall be dampened but not saturated before the finish coat is applied.

- (2) The thickness of the finish coat shall be not less than 3 mm.

(3) When a stone dash finish is used, the stone shall be partially embedded in the second coat before the second coat starts to set or stiffen.

Section 9.29. Interior Wall and Ceiling Finishes

9.29.1. General

9.29.1.1. Fire Protection and Sound Control

(1) A wall or ceiling finish shall also conform to the appropriate requirements in Sections 9.10 and 9.11 in addition to the requirements in this Section.

9.29.2. Waterproof Wall Finish

9.29.2.1. Where Required

- (1) Waterproof finish shall be provided to a height of not less than

- (a) 1 800 mm above the floor in shower stalls,
- (b) 1 200 mm above the rims of bathtubs equipped with showers, and
- (c) 400 mm above the rims of bathtubs not equipped with showers.

9.29.2.2. Materials

(1) Waterproof finish shall consist of ceramic, plastic or metal tile, sheet vinyl, tempered hardboard, laminated thermosetting decorative sheets or linoleum.

9.29.3. Wood Furring

9.29.3.1. Size and Spacing of Furring

(1) Wood furring for the attachment of wall and ceiling finishes shall conform to Table 9.29.3.1.

Table 9.29.3.1.

Size and Spacing of Furring

Forming Part of Sentence 9.29.3.1.(1)

| Maximum Spacing of Furring, mm | Minimum Size of Furring, mm | | |
|--------------------------------|-------------------------------------|---------------|---------------|
| | Maximum Spacing of Furring Supports | | |
| | Continuous Supports | 400 mm (o.c.) | 600 mm (o.c.) |
| 300 | 19 x 38 | 19 x 38 | 19 x 64 |
| 400 | 19 x 38 | 19 x 38 | 19 x 64 |
| 600 | 19 x 38 | 19 x 64 | 19 x 89 |
| Column 1 | 2 | 3 | 4 |

9.29.3.2. Fastening

(1) Furring shall be fastened to the framing or to wood blocks with not less than 51 mm nails.

9.29.4 Plastering**9.29.4.1. Application**

(1) Application of plaster wall and ceiling finishes including installation of metal or gypsum lath, shall conform to CSA A82.30-M, "Interior Furring, Lathing and Gypsum Plastering".

9.29.5. Gypsum Board Finish (Taped Joints)**9.29.5.1. Application**

(1) The requirements for application of gypsum board in this Subsection apply to the single layer application of gypsum board to wood furring or framing using nails or screws.

(2) Gypsum board applications not described in this Subsection shall conform to CSA A82.31-M, "Gypsum Board Application".

9.29.5.2. Materials

(1) Gypsum products shall conform to

(a) CAN/CSA-A82.27, "Gypsum Board",

(b) ASTM C 36, "Gypsum Wallboard",

(c) ASTM C 37, "Gypsum Lath",

(d) ASTM C 442, "Gypsum Backing Board and Coreboard",

(e) ASTM C 558, "Gypsum Base for Veneer Plaster",

(f) ASTM C 630, "Water Resistant Gypsum Board Backing",

(g) ASTM C 931, "Exterior Gypsum Soffit Board", or

(h) ASTM C 960, "Predecorated Gypsum Board".

9.29.5.3. Maximum Spacing of Supports

(1) Maximum spacing of supports for gypsum board applied as a single layer shall conform to Table 9.29.5.3.

Table 9.29.5.3.**Spacing of Supports for Gypsum Board**

Forming Part of Sentence 9.29.5.3.(1)

| Thickness mm | Orientation of Board to Framing | Maximum Spacing of Supports, mm o.c. | | |
|-----------------|------------------------------------|---|-------------------|-------------------------------|
| | | Walls | Ceilings | |
| | | | Painted Finish | Water-Based Texture Finish |
| 9.5 | parallel perpendicular | — 400 | — 400 | — — |
| 12.7 | parallel perpendicular | 600 600 | 400 600 | — 400 |
| 15.9 | parallel perpendicular | 600 600 | 400 600 | — 600 |
| Column 1 | 2 | 3 | 4 | 5 |

9.29.5.4. Support of Insulation

(1) Gypsum board supporting insulation shall be at least 12.7 mm thick.

9.29.5.5. Length of Fasteners

(1) The length of fasteners for gypsum board shall conform to Table 9.29.5.5., except that lesser depths of penetration are permitted for assemblies required to have a *fire-resistance rating* provided it can be shown, on the basis of fire tests, that such depths are adequate for the required rating.

Table 9.29.5.5.**Fastener Penetration Into Wood Supports**

Forming Part of Sentence 9.29.5.5.(1)

| Required <i>Fire-Resistance Rating</i> of Assembly | Minimum Penetration, mm | | | |
|--|-------------------------|--------|----------|--------|
| | Walls | | Ceilings | |
| | Nails | Screws | Nails | Screws |
| Not required | 20 | 15 | 20 | 15 |
| 45 min | 20 | 20 | 30 | 30 |
| 1 h | 20 | 20 | 45 | 45 |
| 1.5 h | 20 | 20 | 60 | 60 |
| Column 1 | 2 | 3 | 4 | 5 |

9.29.5.6. Nails

(1) Nails for fastening gypsum board to wood supports shall conform to CSA B111. "Wire Nails, Spikes and Staples".

9.29.5.7. Screws

(1) Screws for fastening gypsum board to wood supports shall conform to ASTM C1002, "Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases".

9.29.5.8. Spacing of Nails

(1) For single-layer application nails shall be spaced not more than 180 mm on ceiling supports, and not more than 200 mm apart along vertical wall supports, except that nails may be spaced in pairs about 50 mm apart every 300 mm along such wall or ceiling supports.

(2) Where the ceiling sheets are supported by the wall sheets around the perimeter of the ceiling, this support may be considered as equivalent to nailing at this location.

(3) The uppermost wall nails shall be not more than 200 mm below the ceiling.

(4) Nails shall be located not less than 10 mm from the side or edge of the board.

(5) Nails shall be driven so that the heads are below the plane of the board surface but do not puncture the paper.

9.29.5.9. Spacing of Screws

(1) Where gypsum board is applied with drywall screws, the screws shall be spaced not more than 300 mm o.c. along supports, except that on vertical surfaces the screws may be spaced 400 mm o.c. where the supports are not more than 400 mm o.c.

9.29.5.10. Low Temperature Conditions

(1) In cold weather, heat shall be provided to maintain a temperature of not below 10°C for 48 h prior to taping and finishing and maintained for not less than 48 h thereafter.

9.29.6. Plywood Finish**9.29.6.1. Thickness**

(1) Except as provided in Sentences (2) and (3), the minimum thickness of plywood interior finish shall conform to Table 9.29.6.1.

Table 9.29.6.1.**Thickness of Plywood Interior Finish**

Forming Part of Articles 9.29.6.1. and 9.29.6.2.

| Maximum Spacing of Supports, mm | Minimum Thickness, mm ⁽¹⁾ | |
|---------------------------------|---|---|
| | On supports with no Horizontal Blocking | On Supports with Blocking at Vertical Intervals not Exceeding 1.2 m |
| 400 | 4.7 | 4.0 |
| 600 | 8.0 | 4.7 |
| Column 1 | 2 | 3 |

Note to Table 9.29.6.1.

(1) Thickness limits shall apply to the net effective thickness (NET) of grooved, striated, textured and/or embossed panels and to the actual thickness of flat panels.

(2) A manufacturing tolerance of -0.4 mm may be applied to the thicknesses listed in Table 9.29.6.1.

(3) No minimum thickness is required where plywood is applied over continuous backing.

9.29.6.2. Grooved Plywood

(1) Except as permitted in Sentence (2), where plywood for interior finish is grooved, the grooves shall not extend through the face ply and into the plies below the face ply unless the groove is supported by framing or furring.

(2) If the grain of the face ply is at right angles to the supporting members, the groove is permitted to extend into the plies below the face ply provided the thickness of the plywood exceeds the value shown in Table 9.29.6.1. by an amount equal to not less than the depth of penetration of the grooves into the plies below the face ply.

9.29.6.3. Nails and Staples

(1) Nails for attaching plywood finishes shall not be less than 38 mm casing or finishing nails spaced not more than 150 mm o.c. along edge supports and 300 mm o.c. along intermediate supports, except that staples providing equivalent lateral resistance may also be used.

9.29.6.4. Edge Support

(1) All plywood edges shall be supported by furring, blocking or framing.

9.29.7. Hardboard Finish**9.29.7.1. Material Standard**

(1) Hardboard shall conform to CAN/CGSB-11.3-M, "Hardboard".

9.29.7.2. Thickness

(1) Hardboard shall be not less than

(a) 3 mm thick where applied over continuous back-up,

(b) 6 mm thick where applied to supports spaced not more than 400 mm o.c., and

(c) 9 mm thick where applied to supports spaced not more than 600 mm o.c.

9.29.7.3. Nails

(1) Nails for fastening hardboard shall be casing or finishing nails not less than 38 mm long, spaced not more than 150 mm o.c. along edge supports and 300 mm o.c. along intermediate supports.

9.29.7.4. Edge Support

(1) All hardboard edges shall be supported by furring, blocking or framing where the back-up is not continuous.

9.29.8. Insulating Fibreboard Finish**9.29.8.1. Material Standard**

(1) Insulating fibreboard shall conform to CAN/CSA-A247-M, "Insulating Fibreboard".

9.29.8.2. Thickness

(1) Insulating fibreboard sheets shall be not less than 11.1 mm thick on supports not more than 400 mm o.c.

(2) Insulating fibreboard tile shall be not less than 12.7 mm thick on supports spaced not more than 400 mm o.c.

9.29.8.3. Nails

(1) Nails for fastening fibreboard sheets shall be not less than 2.6 mm shank diameter casing or finishing nails of sufficient length to penetrate not less than 20 mm into the supports.

(2) Nails shall be spaced not more than 100 mm o.c. along edge supports and 200 mm o.c. along intermediate supports.

9.29.8.4. Edge Support

(1) All fibreboard edges shall be supported by blocking, furring or framing.

9.29.9. Particleboard, OSB or Waferboard Finish**9.29.9.1. Material Standard**

(1) Particleboard finish shall conform to CAN3-O188.1, "Interior Mat-Formed Wood Particleboard".

(2) OSB or waferboard and strandboard finish shall conform to CSA O437.0, "OSB and Waferboard".

9.29.9.2. Minimum Thickness

(1) Except as provided in Sentences (2) and (3), the minimum thickness of O-2 grade OSB used as an interior finish shall conform to that shown for plywood in Table 9.29.6.1.

(2) Thickness listed in Table 9.29.6.1. shall permit a manufacturing tolerance of - 0.4 mm.

(3) No minimum thickness is required where O-2 grade OSB is applied over continuous backing.

(4) OSB conforming to O-1 grade, waferboard conforming to R-1 grade and particleboard shall be

- (a) not less than 6.35 mm thick on supports not more than 400 mm o.c.,
- (b) not less than 9.5 mm thick on supports not more than 600 mm o.c., and
- (c) not less than 6.35 mm thick on supports not more than 600 mm o.c. in walls where blocking is provided at midwall height.

9.29.9.3. Nails

(1) Nails for fastening particleboard, OSB or waferboard shall be not less than 38 mm casing or finishing nails spaced not more than 150 mm o.c. along edge supports and 300 mm o.c. along intermediate supports.

9.29.9.4. Edge Support

(1) All particleboard, OSB or waferboard edges shall be supported by furring, blocking or framing.

9.29.10. Wall Tile Finish

9.29.10.1. Tile Application

(1) Ceramic tile shall be set in a mortar base or applied with an adhesive.

(2) Plastic tile shall be applied with an adhesive.

9.29.10.2. Mortar Base

(1) When ceramic tile is applied to a mortar base the cementitious material shall consist of 1 part portland cement to not more than one-quarter part lime by volume.

(2) The cementitious material described in Sentence (1) shall be mixed with not less than 3 nor more than 5 parts of aggregate per part of cementitious material by volume.

(3) Mortar shall be applied over metal lath or masonry.

(4) Ceramic tile applied to a mortar base shall be thoroughly soaked and pressed into place forcing the mortar into the joints while the tile is wet.

9.29.10.3. Adhesives

(1) Adhesives to attach ceramic and plastic tile shall be applied to the finish coat or brown coat of plaster that has been steel-trowelled to an even surface or to gypsum board or to masonry provided the masonry has an even surface.

9.29.10.4. Moisture Resistant Backing

(1) Ceramic and plastic tile installed on walls around bathtubs or showers shall be applied over moisture resistant backing.

9.29.10.5. Joints between Tiles and Bathtub

(1) The joints between wall tiles and a bathtub or shower shall be suitably caulked with material conforming to CAN/CGSB-19.22-M, "Mildew Resistant Sealing Compound for Tubs and Tile".

Section 9.30. Flooring

9.30.1. General

9.30.1.1. Required Finish Flooring

(1) Finished flooring shall be provided in all *residential occupancies*.

9.30.1.2. Water Resistance

(1) Finished flooring in bathrooms, kitchens, public entrance halls, laundry and general storage areas shall consist of resilient flooring, felted-synthetic-fibre floor coverings, concrete, terrazzo, ceramic tile, mastic or other types of flooring providing similar degrees of water resistance.

9.30.1.3. Sleepers

(1) Wood sleepers supporting finished flooring over a concrete base supported on the ground shall be not less than 19 mm by 38 mm and shall be treated with a wood preservative.

9.30.1.4. Finish Quality

(1) Finished flooring shall have a surface that is smooth, even and free from roughness or open defects.

9.30.2. Panel-Type Underlay

9.30.2.1. Required Underlay

(1) A panel-type underlay shall be provided under resilient flooring, parquet flooring, ceramic tile, felted-synthetic-fibre floor coverings or carpeting laid over lumber subflooring.

(2) A panel-type underlay shall be provided under resilient flooring, parquet flooring, felted-synthetic-fibre floor coverings or carpeting on panel-type subflooring whose edges are unsupported.

(3) Panel-type underlay shall be provided under resilient flooring on waferboard or strandboard subflooring.

(4) Panel-type underlay shall be provided under ceramic tile applied with adhesive.

9.30.2.2. Materials and Thickness

(1) Panel-type underlay shall be not less than 6 mm thick and shall conform to

- (a) CAN/CGSB-11.3-M, "Hardboard",
- (b) CSA O115-M, "Hardwood and Decorative Plywood",
- (c) CSA O121-M, "Douglas Fir Plywood",
- (d) CSA O151-M, "Canadian Softwood Plywood",
- (e) CSA O153-M, "Poplar Plywood",
- (f) CAN3-O188.1-M, "Interior Mat-Formed Wood Particleboard", or

(g) CSA O437.0, "OSB and Waferboard"

(2) Reserved

9.30.2.3. Fastening

(1) Panel-type underlay shall be fastened to the subfloor with staples, annular grooved flooring nails or spiral nails, spaced not more than 150 mm o.c. along the edges and 200 mm o.c. both ways at other locations.

(2) Nails for panel-type underlay shall be not less than 19 mm long for 6 mm thick underlay and 22 mm long for 7.9 mm thick underlay.

(3) Staples for panel-type underlay shall

(a) have not less than a 1.2 mm shank diameter or thickness with a 4.7 mm crown, and

(b) be not less than

(i) 22 mm long for 6 mm underlay, and

(ii) 28 mm long for 7.9 mm and 9.5 mm underlay.

9.30.2.4. Joints Offset

(1) Where panel-type underlay is required to be installed over plywood, or OSB or waferboard, the joints in the underlay shall be offset at least 200 mm from the joints in the underlying subfloor.

9.30.2.5. Surface Defects

(1) Underlay beneath resilient or ceramic floors applied with an adhesive shall have all holes or open defects on the surface patched so that the defects will not be transmitted to the finished surface.

9.30.3. Wood Strip Flooring

9.30.3.1. Thickness

(1) The thickness of wood strip flooring shall conform to Table 9.30.3.1.

Table 9.30.3.1.

Thickness of Wood Strip Flooring

Forming Part of Sentence 9.30.3.1.(1)

| Type of Flooring | Max. Joist Spacing, mm | Minimum Thickness of Flooring, mm | |
|---|------------------------|-----------------------------------|-------------|
| | | With Subfloor | No Subfloor |
| Matched hardwood (interior use only) | 400 | 7.9 | 19.0 |
| | 600 | 7.9 | 33.3 |
| Matched softwood (interior or exterior use) | 400 | 19.0 | 19.0 |
| | 600 | 19.0 | 31.7 |
| Square edge softwood (exterior use only) | 400 | — | 25.4 |
| | 600 | — | 38.1 |
| Column 1 | 2 | 3 | 4 |

9.30.3.2. Strip Direction and End Joints

(1) Wood strip flooring shall not be laid parallel to lumber subflooring unless a separate underlay is provided.

(2) If wood strip flooring is applied without a subfloor, it shall be laid at right angles to the joists so that the end joints are staggered and occur over supports or are end matched.

(3) If the flooring is end matched, it shall be laid so that no 2 adjoining strips break joints in the same space between supports and each strip bears on no fewer than 2 supports.

9.30.3.3. Nailing

(1) When nails are used, wood strip flooring shall be toe nailed or face nailed with not less than 1 nail per strip at the spacings shown in Table 9.30.3.3., except that face nailed strips of more than 25 mm in width shall have at least 2 nails per strip.

Table 9.30.3.3.

Nailing of Wood Strip Flooring

Forming Part of Sentence 9.30.3.3.(1)

| Finish Floor Thickness, mm | Minimum Length of Flooring Nails, mm | Maximum Spacing of Flooring Nails, mm |
|----------------------------|--------------------------------------|---------------------------------------|
| 7.9 | 38 ⁽¹⁾ | 200 |
| 11.1 | 51 | 300 |
| 19.0 | 57 | 400 |
| 25.4 | 63 | 400 |
| 31.7 | 70 | 600 |
| 38.1 | 83 | 600 |
| Column 1 | 2 | 3 |

Note to Table 9.30.3.3.:

(1) See Article 9.30.3.4.

(2) Face nails shall be countersunk and the holes filled with suitable filler.

9.30.3.4. Staples

(1) Staples are permitted to be used to fasten wood strip flooring not more than 7.9 mm in thickness and not more than 50 mm in width provided the staples

(a) are not less than 29 mm long,

(b) have a shank diameter of not less than 1.19 mm,

(c) have a crown of not less than 4.7 mm, and

(d) are spaced not less than 400 mm o.c.

(2) Staples are permitted to be used to fasten wood strip flooring not more than 19 mm in thickness and not more than 83 mm in width provided the staples

(a) are not less than 51 mm long,

(b) have a shank diameter of not less than 1.82 mm,

(c) have a crown of not less than 12.7 mm, and

- (d) are spaced not less than 400 mm o.c.

9.30.4. Parquet Flooring

9.30.4.1. Adhesive

(1) Adhesive used to attach parquet block flooring shall be suitable for bonding wood to the applicable subfloor material.

9.30.5. Resilient Flooring

9.30.5.1. Materials

(1) Resilient flooring used on concrete slabs supported on ground shall consist of asphalt, rubber, vinyl-asbestos, unbacked vinyl or vinyl with an inorganic type backing.

(2) Flooring described in Sentence (1) shall be attached to the base with a suitable waterproof and alkali-resistant adhesive.

9.30.6. Ceramic Tile

9.30.6.1. Application

(1) Ceramic tile shall be set in a mortar bed or applied to a sound smooth base with a suitable adhesive.

(2) Panel-type subfloor to which ceramic tile is to be applied with adhesive shall have its edges supported according to Article 9.23.14.3.

9.30.6.2. Ceramic Tile Set in Mortar Bed

(1) When ceramic tile is set in mortar bed, the bed shall be not less than 32 mm thick. A 50 mm by 50 mm galvanized wire mesh shall be placed in the mortar bed, and asphalt sheathing paper, felt or polyethylene film shall be applied under the mortar bed when the mortar is applied over wood subfloors.

(2) The mortar bed described in Sentence (1) shall consist of by volume

- (a) 1 part portland cement,
- (b) 4 parts sand, and
- (c) 1 part water.

(3) The tile joints for the ceramic tile in Sentence (1) shall be grouted with cement grout which shall be compressed into joints between the tiles and then wiped smooth.

9.30.6.3. Reinforcement for Panel-Type Wood Sheathing

(1) Except as permitted in Article 9.30.6.4., when ceramic floor tiles are set on panel-type wood sheathing, one of the following assemblies for reinforcing the floor assembly shall be used

- (a) 20 mm thick plywood or waferboard with all edges supported by at least 38 mm by 38 mm blocking with floor joists spaced not more than 400 mm o.c., with 6 mm underlay,
- (b) sheathing with a thickness which conforms to Table 9.23.14.5.A. or a rating which complies to Table 9.23.14.5.B. and has an underlay consisting of 15.9 mm plywood or waferboard with offsetting joints, with a 4 mm gap between the sheets, or

- (c) sub-floor sheathing reinforced with close spaced 38 mm by 38 mm blocking at spacings at least half that of the floor joist spacing.

9.30.6.4. Ceramic Tile Applied to Mortar Bed with Adhesive

(1) When ceramic tile is applied to a mortar bed with adhesive, the bed shall be not less than 12.5 mm thick.

(2) The mortar bed described in Sentence (1) shall consist of by volume

- (a) 1 part portland cement,
- (b) 3 parts sand, and
- (c) 1 part water.

(3) A double layer of galvanized diamond mesh wire lath shall be imbedded in the mortar bed with the top layer perpendicular to the bottom layer.

(4) Joints in the wire lath required by Sentence (3) shall be overlapped not less than 12 mm.

(5) The wire lath required in Sentence (1) shall be fastened to the subfloor with

- (a) lath nails not less than 38 mm in length spaced not more than 150 mm o.c., or
- (b) staples not less than 38 mm in length spaced not more than 150 mm o.c.

(6) Asphalt sheathing paper, felt or polyethylene film shall be applied between the mortar bed and the wood subfloor.

(7) Floor joists supporting the mortar bed described in Sentence (1) shall

- (a) be spaced not more than 400 mm o.c., and
- (b) have not less than two rows of 38 mm x 38 mm cross bridging.

(8) The tile joints for the ceramic tile in Sentence (1) shall be grouted with cement grout which shall be compressed into joints between the tiles and then wiped smooth.

Section 9.31. Plumbing Facilities

9.31.1. Scope

9.31.1.1. Application

(1) This Section applies to plumbing facilities and *plumbing systems* within *dwelling units* that are not within a *recreational camp* or a *camp for housing of workers*.

(2) Plumbing facilities other than those required in *dwelling units* shall conform to Subsection 3.7.4.

9.31.2. General

9.31.2.1. General

(1) The construction, extension, *alteration*, renewal or repair of *plumbing systems* and sewage disposal systems shall conform to Part 7.

9.31.2.2. Corrosion Protection

(1) Metal pipes in contact with cinders or other corrosive material shall be protected by a heavy coating of bitumen or other corrosion protection.

9.31.2.3. Grab Bars

(1) When provided, grab bars shall be capable of resisting a load of not less than 1.3 kN applied vertically or horizontally.

9.31.3. Water Supply and Distribution**9.31.3.1. Required Water Supply**

(1) Reserved

9.31.3.2. Required Connections

(1) In a *dwelling unit* with a *water distribution system*, piping for hot and cold water shall be connected to every kitchen sink, lavatory, bathtub, shower, slop sink and laundry area.

(2) Piping for cold water shall be run to every water closet and hose bib.

9.31.4. Required Facilities**9.31.4.1. Required Fixtures**

(1) In a *dwelling unit* with a *water distribution system*, a kitchen sink, lavatory, bathtub or shower stall and water closet shall be provided.

9.31.4.2. Laundry Fixtures

(1) Laundry facilities or a space for laundry facilities shall be provided in every *dwelling unit* or grouped elsewhere in the *building* in a location conveniently accessible to occupants of every *dwelling unit*.

9.31.4.3. Hot Water Supply

(1) In a *dwelling unit* with a *water distribution system*, a hot water supply shall be provided.

(2) The hot water to bathtubs, showers and hand basins that are accessible to residents of a group home, a home for special care or a residence for developmentally-handicapped adults shall have one or more temperature gauges and control devices that are

(a) accessible only to supervisory staff, and

(b) capable of being adjusted to ensure that the temperature of the water supply to the fixtures does not exceed 49°C.

9.31.4.4. Floor Drains

(1) A floor drain shall be installed in a *basement* forming part of a *dwelling unit*.

(2) Where gravity drainage to a *sanitary drainage system* is possible, the floor drain in Sentence (1) shall be connected to the *sanitary drainage system*.

(3) Where gravity drainage to a *sanitary drainage system* is not possible, the floor drain in Sentence (1) is permitted to be connected to a *storm drainage system*, dry well or drainage ditch.

(4) A floor drain shall be provided in a public laundry room, garbage room, incinerator room, *boiler* or heating room, serving more than one *dwelling unit*.

9.31.4.5. Required Facilities at Recreational Camps and a Camp for Housing of Workers

(1) A minimum of one water closet or privy shall be provided

(a) for every ten campers of each sex in a recreational camp, and

(b) for every ten employees of each sex in a *camp for housing of workers*.

(2) In *recreational camps* and a *camp for housing of workers*, at least two lavatories or provision for a pail or other portable container of sound construction shall be provided for each of the water closets or privies required in Sentence (1).

(3) A *camp for housing of workers* shall

(a) have at least one shower or other area of bathing, and

(b) provide for at least one washing machine or laundry tub for every fifteen beds.

9.31.5. Reserved**9.31.6. Service Water Heating Facilities****9.31.6.1. Hot Water Temperature**

(1) Where a hot water supply is required by Article 9.31.4.3., equipment shall be installed to provide to every *dwelling unit* an adequate supply of service hot water with a temperature range from 45°C to 60°C.

9.31.6.2. Supply Source

(1) Service hot water is permitted to be distributed from a centrally located heater to supply the entire *building* or may be supplied by an individual *service water heater* for each *dwelling unit*.

9.31.6.3. Equipment and Installation

(1) Every *service water heater* and its installation shall conform to Part 7.

(2) Reserved

(3) Where a *building* is located in seismic zone 4, 5, or 6, *service water heaters* shall be anchored to the structure to prevent overturning or breaking of gas, oil or electrical lines.

9.31.6.4. Corrosion-Resistant Coating

(1) Where storage tanks for *service water heaters* are steel, they shall be coated with zinc, vitreous enamel (glass lined), hydraulic cement or other corrosion-resistant material.

9.31.6.5. Fuel-Burning Heaters

(1) Fuel-burning *service water heaters* shall be connected to a *chimney flue* conforming to Section 9.21.

9.31.6.6. Heating Coils

(1) Heating coils of *service water heaters* shall not be installed in a *flue* or in the combustion chamber of a *boiler* or furnace heating a *building*.

Section 9.32. Ventilation**9.32.1. General****9.32.1.1. Application**

(1) This Section applies to the ventilation of rooms and spaces in *residential occupancies* by natural ventilation and to self-contained mechanical ventilation systems serving only one *dwelling unit*.

(2) Mechanical ventilation systems, other than self-contained systems serving single *dwelling units*, shall conform to Part 6.

(3) Ventilation of rooms and spaces in other than *residential occupancies* shall conform to Part 6.

(4) A *storage garage* for more than 5 cars shall be ventilated in accordance with Part 6.

9.32.1.2. Mechanical Ventilation for Dwelling Units

(1) Every *dwelling unit* that is supplied with electrical power shall be provided with a mechanical ventilation system in accordance with Subsection 9.32.3.

9.32.1.3. Ventilation of Rooms and Spaces

(1) Except as permitted in Sentence (2), rooms or spaces in a *dwelling unit* shall be ventilated by natural means in accordance with Subsection 9.32.2.

(2) The natural ventilation of rooms or spaces required in Sentence (1) may be provided by mechanical means.

(3) Where a room or space is not provided with natural ventilation as described in Sentence (1), mechanical ventilation shall be provided to exhaust inside air from or to introduce outside air to that room or space at the rate of one-half air change per hour if the room or space is mechanically cooled in summer, and one air change per hour if it is not.

9.32.2. Natural Ventilation**9.32.2.1. Natural Ventilation Area**

(1) The unobstructed openable ventilation area to the outdoors for rooms and spaces in *residential buildings* ventilated by natural means shall conform to Table 9.32.2.1.

Table 9.32.2.1.**Natural Ventilation**

Forming Part of Sentence 9.32.2.1.(1)

| Location | | Minimum Unobstructed Area |
|----------------------|---|--|
| Within dwelling unit | Bathrooms or water closet rooms | 0.09 m ² |
| | Unfinished <i>basement</i> space | 0.2 per cent of the floor area |
| | Dining rooms, living rooms, bedrooms, kitchens, combined rooms, dens, recreation rooms and all other finished rooms | 0.28 m ² per room or combination of rooms |

| | | |
|---------------------------------|---|--------------------------------------|
| Other than within dwelling unit | Bathrooms or water closet rooms | 0.09 m ² per water closet |
| | Sleeping areas | 0.14 m ² per occupant |
| | Laundry rooms, kitchens, recreation rooms | 4 per cent of the floor area |
| | Corridors, storage rooms and other similar public rooms or spaces | 2 per cent of the floor area |
| | Unfinished <i>basement</i> space not used on a shared basis | 0.2 per cent of the floor area |
| Column 1 | 2 | 3 |

(2) Where a vestibule opens directly off a living or dining room within a *dwelling unit*, ventilation to the outdoors for such rooms may be through the vestibule.

9.32.2.2. Protection from Weather and Insects

(1) Openings for natural ventilation other than windows shall be constructed to provide protection from the weather and insects.

(2) Screening shall be of rust-proof material.

9.32.3. Mechanical Ventilation**9.32.3.1. General**

(1) For the purposes of this Subsection a non-solid fuel-fired *appliance* shall be classified as

- (a) direct vented whereby the combustion air is supplied directly from the outdoors to the combustion chamber via a sealed passageway, and the products of combustion are exhausted directly outdoors through an independent sealed vent,
- (b) mechanically vented induced draft whereby combustion air is supplied from within the *building* envelope and the products of combustion are positively conveyed to the outdoors by means of a dedicated sealed vent, or
- (c) natural draft whereby combustion air is supplied from within the *building* envelope and the products of combustion are conveyed to the outdoors through a *chimney* or Type B vent.

(2) For the purposes of this Subsection a *dwelling unit* shall be categorized as

- (a) Type I when
 - (i) all fuel-fired combustion *appliances* located in the *dwelling unit* are direct vented or except for fireplaces, are mechanically vented induced draft, and
 - (ii) the *dwelling unit* does not contain a solid fuel-fired combustion *appliance*,
- (b) Type II when a solid fuel-fired combustion *appliance* is installed in a Type I *dwelling unit*,
- (c) Type III when a mechanically vented induced draft non-solid fuel-fired fireplace or a natural draft *appliance* is present, or

(d) Type IV when *electric space heating* is present.

Table 9.32.3.4.A.

9.32.3.2. Required Mechanical Ventilation

(1) The mechanical ventilation system required in Article 9.32.1.2. shall comply with

(a) Part 6, or

(b) this Subsection for a mechanical ventilation system in a Type I, Type II or Type IV *dwelling unit*.

9.32.3.3. Total Ventilation Capacity

(1) The minimum total ventilation capacity of the ventilation system required in Clauses 9.32.3.2.(1)(b) shall be the sum of the individual room capacities given in Table 9.32.3.3.

Table 9.32.3.3.

Ventilation Capacity

Forming Part of Sentence 9.32.3.3.(1)

| Room | Capacity, L/s |
|--------------------------------------|---------------|
| Master bedroom ⁽¹⁾ | 10 |
| Other bedrooms | 5 |
| Living room ⁽²⁾ | 5 |
| Dining room ⁽²⁾ | 5 |
| Kitchen | 5 |
| Family Room ⁽²⁾ | 5 |
| Recreation room | 5 |
| Basement ⁽³⁾ | 10 |
| Other habitable rooms ⁽⁴⁾ | 5 |
| Bathroom or water closet room | 5 |
| Laundry room | 5 |
| Utility room | 5 |
| Column 1 | 2 |

Notes to Table 9.32.3.3.:

- (1) At least one bedroom in each *dwelling unit* shall be designated as the master bedroom.
- (2) Ventilation capacities assigned to any combined living/dining or family/dining space shall be determined as if the spaces were individual rooms.
- (3) Where a *basement* incorporates rooms of the types designated in this Table, the assigned ventilation capacities for each room shall be as specified for those types of rooms. *Basement* areas used for other purposes that exceed 2/3 of the total *basement* floor area shall be assigned a fan capacity of 10 L/s. Those that are less than 2/3 of the total floor area shall be assigned 5 L/s.
- (4) Other habitable rooms shall be assigned a ventilation capacity of 5 L/s. This does not include spaces intended solely for access, egress, storage or service equipment.

9.32.3.4. Principal Exhaust

(1) A principal exhaust fan shall be installed and shall be rated to provide not less than the capacity given in Table 9.32.3.4.A.

Principal Exhaust Fan Capacity

Forming Part of Sentence 9.32.3.4.(1)

| Number of Bedrooms in <i>Dwelling Unit</i> | Capacity, L/s |
|--|---------------|
| 1 | 15 |
| 2 | 22.5 |
| 3 | 30 |
| 4 | 37.5 |
| More than 4 | Part 6 design |
| Column 1 | 2 |

(2) Except as permitted in Sentence (3), the principal exhaust fan shall be controlled by a manual switch.

(3) A principal exhaust fan required under this Article may be controlled by a dehumidistat or other automatic control device where the manual switch required in Sentence (2) is capable of activating the fan regardless of the setting of the automatic control.

(4) The switches required in Sentences (2) and (3) shall be centrally located in the *dwelling unit* and shall be identified with the words VENTILATION FAN.

(5) The principal exhaust required in this Article may be provided by means of a heat recovery ventilator installed in accordance with Article 9.32.3.11.

(6) Where the installed capacity of the principal exhaust fan exceeds the minimum capacity required in Sentence (1) by more than 50%, the control required in Sentence (2) shall include provision to allow reduction of the flow to within $\pm 10\%$ of the minimum capacity specified in Sentence (1).

(7) Where an exhaust air intake for the principal exhaust fan is connected directly to the duct system of a forced air heating system or other central air circulating system, it shall

- (a) be connected to the return air side of the system, and
- (b) be connected not less than 1 000 mm upstream from any outdoor air supply duct.

(8) Where an exhaust air intake for the principal exhaust fan is located in the kitchen, it shall be located in the ceiling or on the wall within 300 mm of the ceiling.

(9) Single or multiple *exhaust ducts* serving the principal exhaust fan required by Sentence (1) shall be sized according to Part 6 except that they may be sized according to Table 9.32.3.4.B. where

- (a) the longest total duct length, from intake grille to outdoor hood, does not exceed 12 m, and
- (b) the number of elbows does not exceed 4,

but, in any case, they shall not be smaller than recommended by the manufacturer of the fan.

Table 9.32.3.4.B.

Principal Exhaust Duct Size

Forming Part of Sentence 9.32.3.4.(9)

| Number of Bedrooms in Dwelling Unit | Minimum Exhaust Duct Diameter | | | |
|-------------------------------------|--|-------------------|---|-------------------|
| | Ducts Connected to Inlet and Outlet of Principal Exhaust Fan | | Ducts Connected to One Side Only of Principal Exhaust Fan | |
| | Smooth Duct, mm | Flexible Duct, mm | Smooth Duct, mm | Flexible Duct, mm |
| 1 | 100 | 125 | 100 | 125 |
| 2 | 125 | 150 | 125 | 150 |
| 3 | 125 | 150 | 150 | 175 |
| 4 | 150 | 175 | 150 | 175 |
| More than 4 | Part 6 Design | Part 6 Design | Part 6 Design | Part 6 Design |
| Column 1 | 2 | 3 | 4 | 5 |

(10) In applying Table 9.32.3.4.B.

(a) where there is more than one exhaust air inlet duct connected directly to the fan, the diameter of the inlet ducts may be decreased by 25 mm, and

(b) where the *exhaust duct* is connected to the duct system of a forced air heating system, the duct diameter shall be increased by 25 mm.

9.32.3.5. Supplemental Exhaust

(1) Additional supplemental exhaust capacity shall be installed as necessary so that the total capacity of all kitchen, bathroom, water closet room and other supplemental exhaust air inlets is not less than the total ventilation capacity, as required in Article 9.32.3.3., minus the principal exhaust fan capacity, as required in Article 9.32.3.4.

(2) An exhaust air intake shall be installed in each kitchen, bathroom and water closet room.

(3) Where the intake for a supplemental exhaust fan other than a range hood or range-top fan is installed in a kitchen, it shall be installed in the ceiling or on the wall within 300 mm of the ceiling.

(4) *Exhaust ducts* serving the required kitchen, bathroom, water closet room and other supplemental exhaust air inlets shall be sized according to Part 6 except that they may be sized according to Table 9.32.3.5. where

(a) the total duct length does not exceed 9 m, and

(b) the number of elbows does not exceed 4,

but, in any case, they shall not be smaller than recommended by the manufacturers of the fans.

Table 9.32.3.5.

Kitchen, Bathroom and Water Closet Room Exhaust Duct Size

Forming Part of Sentence 9.32.3.5.(4)

| Fan Capacity, L/s | Minimum Exhaust Duct Diameter ⁽¹⁾ | |
|-------------------|--|---|
| | Ducts Connected to Inlet & Outlet of Exhaust Fan, mm | Ducts Connected to One Side Only of Exhaust Fan, mm |
| 25 | 125 | 125 |
| 50 | 150 | 150 |
| Column 1 | 2 | 3 |

Note to Table 9.32.3.5.:

(1) Where flexible duct is used, the duct diameter shall be increased by 25 mm.

(5) A supplemental exhaust fan required by this Article shall be provided with a manual switch located in the same room as the exhaust air inlet.

(6) Where a supplemental fan required by this Article is controlled by a dehumidistat or other automatic control in addition to the manual switch required by Sentence (5), the manual switch shall be capable of activating the fan regardless of the setting of the automatic control.

(7) Supplemental exhaust required in this Article may be provided by means of a heat recovery ventilator installed in accordance with Article 9.32.3.11.

9.32.3.6. Ventilation Systems Coupled with Forced Air Heating Systems

(1) This Article applies to a mechanical ventilation system in a *dwelling unit* that contains a forced air heating system and the forced air heating system is used for delivery of ventilation air.

(2) In a Type I *dwelling unit*, a ventilation supply inlet is not required.

(3) In a Type II *dwelling unit*, the mechanical ventilation system shall include a heat recovery ventilator, coupled to the forced air heating system, installed in accordance with Article 9.32.3.11.

(4) The forced air heating system circulation fan shall be controlled by a manual switch located adjacent to the ventilation fan switch required in Sentence 9.32.3.4.(4).

(5) The switch required in Sentence (4) shall be identified by the words **CIRCULATION FAN**.

9.32.3.7. Ventilation Systems Not Coupled with Forced Air Heating Systems

(1) This Article applies to a mechanical ventilation system in a *dwelling unit* that

- (a) does not contain a forced air heating system, or
- (b) contains a forced air heating system and the forced air heating system is not used for circulation of the ventilation air.

(2) The mechanical ventilation system shall introduce air to and circulate air throughout the *dwelling unit* in compliance with this Article.

(3) The mechanical system in this Article shall include a heat recovery ventilator installed in accordance with Article 9.32.3.11.

(4) Outdoor air shall be distributed by a ductwork system from the heat recovery ventilator required in Sentence (3) to each bedroom, to any *storey* without a bedroom and, if there is no *storey* without a bedroom, to the principal living area.

(5) A *supply duct* from the outdoors to the heat recovery ventilator required and a main distribution trunk duct shall be provided and shall be sized according to Part 6, except that, the *supply duct* and the main distribution trunk duct may be sized according to Table 9.32.3.7.A. where

- (a) the total duct length from the outdoor hood to any supply register does not exceed 21 m, and
- (b) the total number of fittings does not exceed 8.

Table 9.32.3.7.A.

Minimum Outdoor Air Supply and Main Trunk Duct Sizes

Forming Part of Sentence 9.32.3.7.(5)

| Number of Bedrooms in Dwelling Unit | Minimum Outdoor Air Supply and Main Distribution Trunk Duct Diameter, mm |
|-------------------------------------|--|
| 1 | 150 |
| 2 | 150 |
| 3 | 175 |
| 4 | 175 |
| More than 4 | Part 6 design |
| Column 1 | 2 |

(6) The outside air *supply duct* required by Sentence (5) shall not be considered to provide combustion and/or dilution air to fuel-burning *appliances*.

(7) Branch *supply ducts* leading from the main distribution trunk duct required by Sentence (5) to the rooms to which outdoor air is to be distributed shall be provided and shall be sized according to Part 6

except that the branch *supply ducts* may be sized according to Table 9.32.3.7.B where

- (a) the total duct length from outdoor hood to supply register does not exceed 21 m, and
- (b) the total number of fittings does not exceed 8.

Table 9.32.3.7.B.

Minimum Branch Supply Duct Sizes

Forming Part of Sentence 9.32.3.7.(7)

| Room, Space or Storey Served | Minimum Branch Supply Duct Diameter | |
|--|-------------------------------------|------------------------------------|
| | 1 and 2 Bedroom Dwelling Units, mm | 3 and 4 Bedroom Dwelling Units, mm |
| Master bedroom | 100 | 100 |
| Other bedrooms | 75 | 75 |
| Storey with no bedrooms or living area | 75 | 100 |
| Column 1 | 2 | 3 |

(8) In applying Sentence (7), where the *dwelling unit* has more than 4 bedrooms, ducting shall be sized according to Part 6.

(9) All branch *supply ducts* which are not fitted with diffusers with adjustable balance stops shall be supplied with accessible dampers which can be adjusted and fixed in their adjusted positions and which include devices to indicate the positions of the dampers.

(10) Provision shall be made for the free flow of air to all rooms by leaving gaps beneath doors, using louvred doors or installing grilles in doors.

9.32.3.8. Protection Against Depressurization

(1) When determining the need to provide protection against depressurization, consideration must be given to

- (a) whether the presence of soil gas is deemed to be a problem, and
- (b) the presence of solid fuel-fired combustion *appliances*.

(2) Where a solid fuel-fired combustion *appliance* is installed, a carbon monoxide detector shall be installed in conformance with Sentences (3), (4) and (5).

(3) A carbon monoxide detector conforming with CAN/CGA-6.19, "Residential Carbon Monoxide Detectors", or UL 2034, "Single and Multiple Station Carbon Monoxide Detectors", shall be installed on or near the ceiling in each room in which there is installed a solid fuel-burning *appliance*.

(4) The carbon monoxide detector required by Sentence (3) shall be permanently connected to an electrical circuit and shall have no disconnect switch between the overcurrent device and the carbon monoxide detector.

(5) The carbon monoxide detector required by Sentence (3) shall

(a) be wired so that its activation will activate the *smoke alarm* system required by Subsection 9.10.18., or

(b) be equipped with an alarm that is audible within bedrooms when the intervening doors are closed.

(6) Where a solid fuel-fired combustion *appliance* is installed, the ventilation system shall include a heat recovery ventilator which is designed to operate so that the flow of exhaust air does not exceed the flow of intake air in any operating mode, and which complies with the requirements of Article 9.32.3.11.

9.32.3.9. Fan Ratings

(1) Except as provided in Sentence (3), capacity and sound ratings for required fans shall be determined in accordance with CAN/CSA-C260, "Rating the Performance of Residential Mechanical Ventilating Equipment".

(2) Capacity ratings for required fans shall be based on a static pressure differential of 50 Pa, 25 Pa or 7.5 Pa depending on whether the fan is installed with ductwork connected on both sides, one side or neither side, respectively.

(3) Except for heat recovery ventilators, exhaust fans required to make up any part of the total ventilation capacity required by Article 9.32.3.3. shall have a sound rating not less than that specified in Table 9.32.3.9.

Table 9.32.3.9.

Fan Sound Rating

Forming Part of Sentence 9.32.3.9.(3)

| Type of Fan | Maximum Sound Ratings | |
|-------------------------------|-----------------------|-----|
| | Sone | dBA |
| Principal exhaust | 2.5 | 55 |
| Kitchen | 3.5 | 60 |
| Bathroom or water closet room | 2.5 | 55 |
| Supply | 2.5 | 55 |
| Column 1 | 2 | 3 |

(4) Required fans shall be installed according to the manufacturer's instructions.

(5) Mechanical ventilation devices shall conform to CSA-C22.2 No. 113, "Fans and Ventilators".

9.32.3.10. Ducts

(1) Ventilation ducts shall conform to the requirements of Part 6 for *supply ducts* except that *exhaust ducts* that serve only a bathroom or

water closet room may be of *combustible* material provided the duct is reasonably airtight and constructed of a material impervious to water.

(2) *Exhaust ducts* shall not discharge into heated or unheated enclosed spaces.

(3) Where an *exhaust duct* passes through or is adjacent to unheated space, the duct shall be insulated to not less than RSI 0.5.

(4) Where a *supply duct* carrying outdoor air that is not tempered or not mixed with indoor air passes through heated space, it shall be insulated to not less than RSI 0.5 except that, where such a duct is exposed in the heated space for more than 3 m of length in the heated space, it shall be insulated to not less than the values listed in Table 9.32.3.10.A.

Table 9.32.3.10.A

Insulation of Fresh Air Supply Ducts

Forming Part of Sentence 9.32.3.10.(4)

| Outside Winter Design Temperature as per Article 2.5.1.1.(1), °C | Minimum Thermal Resistance, RSI |
|---|---------------------------------|
| -7 to -11 | 0.5 |
| -12 to -17 | 0.9 |
| -18 to -24 | 1.2 |
| -25 to -29 | 1.4 |
| -30 to -34 | 1.8 |
| -35 and colder | 2.1 |
| Column 1 | 2 |

Note to Table 9.32.3.10.A:

(1) The outside winter design temperatures shall be those listed for the January 2.5 per cent values.

(5) A kitchen *exhaust duct* not equipped with a filter at the inlet end shall be designed and installed so that the entire duct can be cleaned.

(6) Ductwork for range hoods and range-top fans shall be of *noncombustible*, corrosion-resistant material and shall lead directly to the outdoors without connection to other exhaust fans or ducts.

(7) Ductwork for range hoods and range-top fans shall be equipped with a grease filter at the intake.

(8) All ductwork shall be permanently supported or clipped to prevent sagging, excessive movement and vibration.

(9) All ducting connected to supply and exhaust fans shall be constructed so as to inhibit air leakage at joints.

(10) Where rectangular duct is used in place of round duct, it shall be selected according to Table 9.32.3.10.B.

Table 9.32.3.10.B

Equivalent Duct Sizes

Forming Part of Sentence 9.32.3.10.(10)

| Required Round Duct Size, mm | Permitted Equivalent Rectangular Duct Size, mm | | | |
|------------------------------|--|---------------|---------------|---------------|
| | Stack Duct | 100 mm Depth | 125 mm Depth | 150 mm Depth |
| 75 | 82 × 250 | 57 × 100 | | |
| 100 | 82 × 250 | 89 × 100 | 75 × 125 | 75 × 150 |
| 125 | 82 × 250 | 125 × 100 | 100 × 125 | 89 × 150 |
| 150 | 82 × 300 | 200 × 100 | 150 × 125 | 125 × 150 |
| 175 | 82 × 350 | 275 × 100 | 200 × 125 | 175 × 150 |
| More Than 175 | Part 6 Design | Part 6 Design | Part 6 Design | Part 6 Design |
| Column 1 | 2 | 3 | 4 | 5 |

9.32.3.11. Heat Recovery Ventilators

(1) Where a heat recovery ventilator is installed to provide all or part of the requirements of this Subsection, this Article shall apply.

(2) Heat recovery ventilators shall be designed to provide a minimum 55% sensible heat recovery efficiency when tested to the low temperature thermal and ventilation performance test method set out in CAN/CSA-439-M, "Standard Methods of Test for Rating the Performance of Heat Recovery Ventilators", at a Station 1 test temperature of -25°C at an air flow not less than 30 L/s.

(3) Where a heat recovery ventilator is connected to a forced air heating system, the supply side of the ventilator shall be directly connected to the return air side of the forced air heating system.

(4) Two or more heat recovery ventilators shall not be connected in parallel air flow to a common air *supply duct* unless specifically recommended by the manufacturer.

(5) Two or more heat recovery ventilators shall not be connected in parallel air flow to a common downstream *exhaust duct*.

(6) Heat recovery ventilators installed in unheated spaces shall be installed so as to avoid condensation of moisture on fans and motors in exhaust air, in accordance with the manufacturer's instructions.

(7) All start-up procedures recommended by the manufacturer including air balancing and air-flow determination shall be followed.

(8) Free flow of condensate shall be provided in accordance with the manufacturer's recommendations or, in their absence, a condensate drain of minimum 1/2 inch nominal pipe size pitched in the direction of flow and complete with a trap or condensate pump with sufficient capacity shall be installed.

(9) The heat recovery ventilator and all condensate lines shall be installed in a space where the ambient temperature will not adversely affect the operation of the system.

(10) When operating at the rate required in Article 9.32.3.4., the supply and exhaust airflow rates of the heat recovery ventilator shall be balanced so that the value of the lesser flow shall be at least 90% of the value of the greater flow, unless otherwise recommended by the manufacturer.

9.32.3.12. Outdoor Intake and Exhaust Openings

(1) Separate air intake and exhaust outlet openings, when located on the same wall or roof, shall be installed so as to avoid contamination of the ventilation air by the exhaust air.

(2) Intake openings shall be located so as to avoid contamination of the ventilation air from other local sources such as automobile exhausts and exhaust from adjacent *buildings*.

(3) The distance from the bottom of an air intake opening to finished ground level or to any nearer and lower permanent horizontal surface shall be not less than 450 mm or the depth of expected snow accumulation, whichever is greater.

(4) The distance separating air intakes from *building* envelope penetrations that are potential sources of contaminants, such as *gas vents* or oil fill pipes, shall be not less than 900 mm.

(5) Air intakes shall be clearly labelled as such for identification from locations outside the *dwelling unit*.

(6) The distance from the bottom of an exhaust outlet to finished ground level or to any nearer and lower permanent horizontal surface shall be not less than 100 mm.

(7) Where air intake and exhaust openings are in exposed locations, provision shall be made to protect them from the entry of precipitation by the use of louvers, weather cowls or other suitable protection.

(8) Air intake openings shall incorporate screens or grilles to protect against the entry of animals and insects.

(9) Except for exhaust outlets serving heat recovery ventilators, exhaust outlets shall incorporate backdraft dampers.

(10) Where a backdraft damper required by Sentence (9) is not located at the *building* envelope, the exhaust outlet shall incorporate a screen, located at the *building* envelope, to protect against the entry of animals.

(11) Where a screen or grille required by Sentences (8) and (10) has a mesh size of less than 6 mm, the screen or grille shall be removable for cleaning.

(12) The gross area of the screens or grilles installed in intake and exhaust openings shall be three times that of the duct served.

(13) Screens and grilles shall be of corrosion-resistant material.

(14) The net free area of an air intake or exhaust outlet shall be equal to or greater than the cross-sectional area of the duct served.

9.32.3.13. Installation

(1) Installation of fans and heat recovery ventilators shall be in accordance with manufacturer's instructions for minimizing noise and vibration transmission and achieving the required sound rating.

(2) Where flow-regulating dampers are required, they shall be adjustable and accessible without requiring the removal of fans, motors, or insulating materials and without the need for specialized tools.

(3) Ventilation equipment shall be accessible for inspection, maintenance, repair and cleaning.

(4) Ventilation equipment installed in unheated spaces shall be installed so as to avoid condensation of moisture on fans and motors in accordance with the manufacturer's instructions.

Section 9.33. Heating and Air-Conditioning**9.33.1. General****9.33.1.1. Design and Installation Requirements**

(1) The design and installation of central heating systems including requirements for combustion air, shall conform to the requirements in Part 6 and to this Section.

(2) The design and installation of *air-conditioning* systems shall conform to Part 6.

(3) Repairs, adjustments or component replacements that change the capacity or extent of safety of an existing heating, ventilating or *air-conditioning* system and that alter the method of operation shall conform to this Code.

9.33.1.2. Solid Fuel-Burning Appliances

(1) The design and installation of solid-fuel burning *stoves*, *ranges* and *space heaters*, including the requirements for combustion air, shall conform to CAN/CSA-B365-M, "Installation Code for Solid-Fuel Burning Appliances and Equipment".

9.33.2. Required Heating Systems

(1) Residential *buildings* intended for use in the winter months on a continuing basis shall be equipped with heating facilities conforming to this Section.

9.33.3. Design Temperatures**9.33.3.1. Indoor Design Temperatures**

(1) At the outside design temperature, required heating facilities shall be capable of maintaining an indoor air temperature of not less than

- (a) 22°C in all living spaces,
- (b) 22°C in unfinished *basements*, and
- (c) 15°C in heated crawl spaces.

9.33.3.2. Outdoor Design temperatures

(1) The outdoor conditions to be used in designing heating, ventilating and *air-conditioning* systems shall be the appropriate values

for the Municipality as set out in Section 2.5 Climatic Data, using 2.5 per cent design temperature criteria.

Section 9.34. Electrical Facilities**9.34.1. General****9.34.1.1. Reserved****9.34.1.2. Required Facilities**

(1) Where electrical services are available, electrical facilities shall be provided for every *building* in conformance with this Section.

9.34.1.3. Location of Equipment in Public Areas

(1) Entrance switches, meters, panel boxes, splitter boxes, time clocks and other similar equipment shall not be located in any public area unless adequate precautions are taken to prevent interference with the equipment.

9.34.1.4. Recessed Lighting Fixtures

(1) Recessed lighting fixtures shall not be located in insulated ceilings unless the fixtures are designed for such installations.

9.34.1.5. Wiring and Cables

(1) Except for *dwelling units* and except as required in Sentence (2), electrical wiring and cables installed in *buildings* permitted to be of *combustible construction* shall conform to Sentence 3.1.4.3.(1).

(2) Where a concealed space in a floor or ceiling assembly is used as a *plenum*, electrical wiring and cables within the *plenum* shall conform to Sentence 3.6.4.3.(1).

9.34.2. Lighting Outlets**9.34.2.1. Lighting of Entrances**

(1) An exterior lighting outlet with fixture controlled by a wall switch located within the *building* shall be provided at every entrance to *buildings* of *residential occupancy*.

9.34.2.2. Outlets in Dwelling Units

(1) Except as provided in Sentence (2), a lighting outlet with fixture controlled by a wall switch shall be provided in kitchens, bedrooms, living rooms, utility rooms, laundry rooms, dining rooms, bathrooms, water-closet rooms, vestibules and hallways in *dwelling units*.

(2) Where a receptacle controlled by a wall switch is provided in bedrooms or living rooms, such rooms need not conform to the requirements of Sentence (1).

9.34.2.3. Stairways

(1) Every stairway shall be lighted.

(2) Except as provided in Sentence (3), 3-way wall switches located at the head and foot of every stairway shall be provided to control not less than one lighting outlet with fixture for stairways with 4 or more risers in *dwelling units*.

(3) The stairway lighting for *basements* that do not contain finished space or lead to an outside entrance or built-in garage and which serve not more than one *dwelling unit* is permitted to be controlled by a single switch located at the head of the stairs.

9.34.2.4. Basements

(1) A lighting outlet with fixture shall be provided for each 30 m² or fraction thereof of floor area in unfinished *basements*.

(2) The outlet required in Sentence (1) nearest the stairs shall be controlled by a wall switch located at the head of the stairs.

9.34.2.5. Storage Rooms

(1) A lighting outlet with fixture shall be provided in storage rooms.

9.34.2.6. Garages and Carports

(1) A lighting outlet with fixture shall be provided for an attached, built-in or detached garage or carport.

(2) Except as provided in Sentence (3), lighting outlets required in Sentence (1) shall be controlled by a wall switch near the doorway.

(3) Where the lighting outlet and fixture required in Sentence (1) are ceiling mounted above an area not normally occupied by a parked car; or are wall mounted, a fixture with a built-in switch is permitted to be used.

(4) Where a carport is lighted by a light at the entrance to a *dwelling unit*, additional carport lighting is not required.

9.34.2.7. Public and Service Areas

(1) Every public or service area in *buildings*, including a *recreational camp* and a *camp for housing of workers*, shall have lighting outlets with fixtures controlled by a wall switch or panel.

(2) When provided by incandescent lighting, illumination required in Sentence (1) shall conform to Table 9.34.2.7.

(3) When other types of lighting are used, illumination equivalent to that shown in Table 9.34.2.7. shall be provided.

Table 9.34.2.7.

Lighting for Public Areas

Forming Part of Sentences 9.34.2.7.(2) and (3)

| Room or Space | Minimum Illumination, lx | Minimum Lighting Power Density, W/M ² of floor area (incandescent lighting) |
|---------------------------------|--------------------------|--|
| Storage rooms | 50 | 5 |
| Service rooms and laundry areas | 200 | 20 |
| Garages | 50 | 5 |
| Public water-closet rooms | 100 | 10 |
| Service hallways and stairways | 50 | 5 |
| Recreation rooms | 100 | 10 |

| | | |
|---|-----|----|
| Recreational camps and camps for housing of workers | | |
| hallways, corridors, stairways and sleeping areas | 100 | 10 |
| Kitchen | 500 | 50 |
| All other rooms | 250 | 25 |
| Column 1 | 2 | 3 |

9.34.3. Emergency Lighting**9.34.3.1. Emergency Lighting**

(1) Emergency lighting shall conform to Subsection 9.9.11.

9.34.4. Service Entrance Requirements**9.34.4.1. Meter Mounting Device**

(1) Except in the case of externally mounted read-outs, each new residential consumer service of 200 amperes or less shall have a meter mounting device located outdoors in an accessible location.

(2) For the purposes of this Subsection, the front of the *building* is the side nearest the utility distribution line.

9.34.4.2. Location of Meter Mounting Device

(1) Meter mounting devices shall be installed on the wall of the *building* or where that is not possible, on a separate support, so that the midpoint of the meter after installation will be 1 750 mm \pm 100 mm from finished *grade*.

(2) Meter mounting devices shall be located not more than 3 m back from the front of the single family and semi-detached homes.

9.34.4.3. Location of Consumer Service Standpipe

(1) For an underground supply, the bottom of the consumer service standpipe shall be located not more than 3 m from the corner of the *building*.

(2) For an overhead supply, the top of the consumer service standpipe shall be located not more than 3 m from the corner of the *building* except that where this location does not permit a 4.5 m clearance at the point of attachment of the service conductors to the *building*, the top of the standpipe may be extended to a point not more than half way along the *building*.

9.34.4.4. Meter Mounting Device

(1) The meter mounting device shall be

- (a) one hundred ampere capacity except when the service equipment is to be greater,
- (b) standardized for each service size, and
- (c) capable of accepting 2 in. IPS conduit of steel, aluminum, copper or PVC if intended for underground service entrance.

9.34.4.5. Underground Service

(1) For consumer services supplied underground

- (a) a 2 in. IPS steel, aluminum, copper or PVC conduit shall be attached to the bottom of the meter-mounting device and shall terminate in the earth at a point at least 900 mm below *grade* and

a conduit bushing shall be attached to the conduit in the earth, and

- (b) the conductors on the line side of the meter and those on the load side of the meter shall not be installed in the same conduit.

Section 9.35. Garages and Carports

9.35.1. Scope

9.35.1.1. Application

(1) This Section applies to garages and carports serving not more than 1 *dwelling unit*.

9.35.1.2. Construction Requirements

(1) The construction of a garage or carport shall conform to the requirements for other *buildings* in this Part except as provided in this Section.

9.35.2. General

9.35.2.1. Carport Considered to be Garage

(1) Where a roofed enclosure used for the storage or parking of motor vehicles has more than 60 per cent of the total perimeter enclosed by walls, doors or windows, the enclosure shall be considered a garage.

9.35.2.2. Garage Floor

(1) Where an attached or built-in garage is provided, the garage floor shall be sloped to drain liquids to the outdoors.

9.35.3. Foundations

9.35.3.1. Foundation Required

(1) Except as permitted in this Subsection, *foundations* conforming to Sections 9.12. and 9.15. shall be provided for the support of carport and garage super-structures, including that portion beneath garage doors.

9.35.3.2. Protection from Damage due to Soil Movement

(1) In clay-type *soils* subject to significant movement with a change in *soil* moisture content, the *foundation* depth of carports or garages connected to a *dwelling unit* directly or by a breezeway shall be approximately the same depth as the main *building foundation*.

(2) Where slab-on-ground construction is used, a construction joint shall be provided between the main *building* slab and the garage or breezeway or carport slab.

(3) Except as provided in Section 9.12., *foundations* for attached unheated garages or carports shall be below frost level.

9.35.3.3. Small Garages

(1) Detached garages of less than 50 m² floor area and not more than 1 *storey* in height may be supported on wood mud sills provided the garage is not of masonry or masonry veneer construction.

9.35.3.4. Column Piers

(1) Piers for the support of carport columns shall extend not less than 150 mm above ground level.

(2) Piers referred to in Sentence (1) shall project not less than 25 mm beyond the base of the column but in no case be less than 190 mm by 190 mm in size.

9.35.4. Walls and Columns

9.35.4.1. Interior Finish

(1) Interior finish need not be applied to garage and carport walls.

9.35.4.2. Columns

(1) Columns for garages and carports shall conform to Section 9.17, except that 89 mm by 89 mm wood columns may be used.

9.35.4.3. Anchorage

(1) Garage or carport walls and columns shall be anchored to the *foundation* to resist wind uplift in conformance with Subsection 9.23.6., except that where a garage is supported on the surface of the ground, ground anchors shall be provided to resist wind uplift.

Section 9.36. Cottages

9.36.1. Scope

9.36.1.1. Application

(1) This Section applies to *buildings* of *residential occupancy* used or intended to be used as seasonal recreational *buildings*.

(2) The *buildings* described in Sentence (1) shall comply with all the requirements of this Part, except where they are specifically exempted in this Section.

9.36.2. General

9.36.2.1. Exclusions

(1) Except as provided in Articles 9.36.3.1. and 9.36.2.4. and Subsection 9.10.15., *buildings* used or intended to be used as seasonal recreational *buildings* need not comply with Sections 9.5. to 9.7. and 9.9. to 9.11.

(2) Flooring need not comply with Section 9.30., but tight-fitting floors shall be provided to support the *live* and *dead loads*.

(3) Except as provided in Sentences (4) and (5), thermal insulation, vapour barrier, air-barrier construction, interior finishes, plumbing, heating, mechanical ventilation, *air-conditioning* and electrical facilities, need not be provided, but where any of these are provided, they shall comply with the requirements of this Part.

(4) Where heating and *air-conditioning* are provided, Article 9.33.3.1. need not be complied with.

(5) Where thermal insulation is provided, the minimum thermal resistance of insulation in Table 9.25.2.1. need not be provided.

9.36.2.2. Foundations

(1) Continuous perimeter *foundation* walls are not required, but when they are provided, they shall comply with the requirements of this Part.

(2) Where unit masonry columns are used, the height of such columns shall not exceed

- (a) in the case of hollow masonry units, 4 times the least dimension of the units,

(b) in the case of solid masonry units or hollow units with voids filled with concrete, 10 times the least dimension of the column, or

(c) where the column is reinforced with at least four 13 mm diameter bars and filled with concrete, 18 times the least dimension of the column.

(3) Columns in excess of the height limitations of Clause (2)(a), (2)(b), or (2)(c) shall be designed in accordance with Part 4.

9.36.2.3. Waterproofing and Dampproofing

(1) Where *foundations* below ground level and concrete floors on *grade* are used, they shall comply with Section 9.13., "Waterproofing and Dampproofing".

9.36.2.4. Smoke Alarms

(1) Every *dwelling unit* within the scope of this Section shall be provided with a smoke alarm in accordance with Subsection 9.10.18.

9.36.3. Tourist Accommodation

9.36.3.1. Buildings for Seasonal Tourist Accommodation or for Rent

(1) Where *buildings* are used or intended to be used for seasonal tourist accommodation or for rent, they shall comply with Sections 9.5. to 9.8. in addition to the requirements of this Section.

Section 9.37. Log Construction

9.37.1. General

9.37.1.1. Material Requirements

(1) Logs which are sound and free of fractures may be used for *foundations*, beams, posts and similar members providing it can be shown by a structural analysis or tests or previous experience that the strength of the member is adequate for its intended purposes.

9.37.1.2. Requirement for Wood Preservative

(1) The portion of any log coming in contact with masonry or concrete at or below *grade* shall be treated with a wood preservative to prevent decay.

9.37.1.3. Exterior Joints

(1) All exterior joints between logs shall be rendered water-tight by methods such as machined joints, oakum packing, cement parging, chinking, caulking or a combination of these.

9.37.2. Walls

9.37.2.1. Logs

(1) Walls may be built of natural or manufactured logs.

9.37.2.2. Attachment of Logs

(1) Walls made of logs in a horizontal position shall have interlocking intersections which will prevent the collection of water in the joints, or the horizontal logs shall butt to a vertical corner post to which the horizontal logs shall be firmly attached.

9.37.2.3. Joining Logs

(1) Each log in a horizontal position shall be scribed as close as possible to its bearer and fastened to the bearer in at least three places throughout its length, by dowels, continuous machined joints, vertical framing members or interlocking intersections or any combination of these, but in no case shall the distance between fastenings exceed 1 800 mm.

9.37.2.4. Vertical Logs

(1) Each log in a wall built of vertical logs shall be scribed to fit as closely as possible to the adjacent logs.

9.37.2.5. Plates

(1) Logs used in a vertical position shall have a plate at the top and a plate at the bottom, which are at least as wide as the largest end diameter of any of the logs.

9.37.3. Lintels

9.37.3.1. Support Over Openings

(1) Logs placed in vertical position shall be supported over window and door openings by lintels meeting the requirements of Tables A13 to A20.

9.37.3.2. Clearance

(1) At every opening in a wall made of logs in a horizontal position where shrinkage can occur there shall be a clearance between the rough buck header and the lintel log of not less than 13 mm in width for each 300 mm of height to allow for settlement.

Section 9.38. Thermal Design

9.38.1. Scope

9.38.1.1. Application

(1) This Section applies to the thermal design of a *building* of *residential occupancy* where such design is an alternative to the thermal insulation requirements of Section 9.25.

9.38.2. General

9.38.2.1. Materials and Installation

(1) The materials for, and the installation of, thermal insulation and vapour barrier protection shall conform to Section 9.25.

9.38.2.2. Protection of Foamed Plastic

(1) Foamed plastic thermal insulation shall be protected as described in Article 9.10.16.10.

9.38.2.3. Crawl Spaces

(1) Crawl spaces shall comply to Section 9.18.

9.38.2.4. Roof Spaces

(1) Roof spaces shall comply to Section 9.19.

9.38.2.5. Ventilation

(1) Ventilation requirements shall comply to Section 9.32 except as provided in Subsection 9.38.7.

9.38.2.6. Heating and Air-Conditioning

(1) Heating and *air-conditioning* requirements shall comply to Section 9.33.

9.38.3. Thermal Resistance of Assemblies**9.38.3.1. Thermal Resistance**

(1) Except as provided in Articles 9.38.3.2. to 9.38.3.6., and except for doors, windows, skylights and other *closures*, the thermal resistance of each *building* assembly through any portion that does not include framing or furring shall conform to Table 9.38.3.1.

Table 9.38.3.1.**Minimum Thermal Resistance, RSI Value**

Forming Part of Sentence 9.38.3.1.(1)

| Building Assembly | Maximum Number of Celsius Degree Days | | Electric Space Heating |
|---|---------------------------------------|------------|------------------------|
| | Up to 5000 | Above 5000 | |
| Ceiling below <i>attic</i> or <i>roof space</i> | 5.6 | 6.9 | 7.20 |
| Roof assembly without <i>attic</i> or <i>roof space</i> | 3.8 | 3.8 | 4.15 |
| Wall other than <i>foundation</i> wall | 3.7 | 4.3 | 5.15 |
| <i>Foundation</i> walls enclosing heated space | 2.4 | 2.4 | 3.54 |
| Floor, other than slab-on-ground | 4.7 | 4.7 | 4.7 |
| Slab-on-ground ⁽¹⁾ | | | |
| – containing pipes or heating ducts | 2.11 | 2.11 | 2.11 |
| – not containing pipes or heating ducts | 1.76 | 1.76 | 1.76 |
| Column 1 | 2 | 3 | 4 |

Note to Table 9.38.3.1.:

(1) "RSI value" shown for slab-on-ground is for rigid insulation.

9.38.3.2. Metal Framing Elements Acting as Thermal Bridge

(1) Except as provided in Article 9.38.3.3., the thermal resistance of the insulated portion of a *building* assembly in Sentence 9.38.1.1.(1) that incorporates metal framing elements, such as steel studs and steel joists, that act as thermal bridges to facilitate heat flow through the assembly, shall be 20 per cent greater than the values shown in Table 9.38.3.1., unless it can be shown that the heat flow is not greater than the heat flow through a wood frame assembly of the same thickness.

9.38.3.3. Insulated Thermal Bridges

(1) Article 9.38.3.2. does not apply for *building* assemblies incorporating thermal bridges where the thermal bridges are insulated to restrict heat flow through the thermal bridges by a material providing a thermal resistance at least equal to 25 per cent of the thermal resistance required for the insulated portion of the assembly in Article 9.38.3.1.

9.38.3.4. Reduction of Thermal Resistance

(1) The thermal resistance of a *building* assembly may be reduced by not more than 20 per cent from that required in Articles 9.38.3.1. and 9.38.3.2., and the amount of glazing may be increased to more than permitted in Article 9.38.4.3., where it can be shown that the total calculated heat loss from the *building* enclosure does not exceed the heat loss that would result if the enclosure were constructed in conformance with the minimum thermal resistance requirements in Articles 9.38.3.1. and 9.38.3.2. and with the maximum amount of glazing permitted in Article 9.38.4.3., provided no allowance is made for solar heat gains or for the orientation of the glazing as described in Article 9.38.4.5.

9.38.3.5. Thermal Resistance Values for Roof and Ceiling Assemblies

(1) The thermal resistance values in Article 9.38.3.1. and 9.38.3.2. for roof or ceiling assemblies separating heated space from unheated space or the exterior may be reduced near the eaves to the extent made necessary by the roof slope and required ventilation clearances, except that the thermal resistance at the location directly above the inner surface of the exterior wall shall be at least $2.1 \text{ m}^2\text{C/W}$.

9.38.3.6. Reduction in Thermal Resistance Values due to Thermal Inertia

(1) The thermal resistance values required in Article 9.38.3.1. may be reduced to take into account the effect of thermal inertia resulting from the mass of the *building* in conformance with Building Research Note No. 126, published by the Division of Building Research, National Research Council of Canada, January 1978.

9.38.3.7. Insulation on Exterior of Foundation Wall

(1) Insulation applied to the exterior of a *foundation* wall or slab-on-ground floor shall extend down at least 600 mm below the adjacent exterior ground level or shall extend down and outward from the floor or wall for a total distance of at least 600 mm measured from the adjacent finished ground level.

9.38.3.8. Insulation on Interior of Foundation Wall

(1) Insulation applied to the interior of a *foundation* walls enclosing heated space shall extend from the underside of the subfloor to not less than 600 mm below the adjacent exterior ground level.

9.38.4. Glazing**9.38.4.1. Thermal Resistance of Glazing**

(1) Except as provided in Articles 9.38.4.2. and 9.38.4.4., all glazing that separates heated space from unheated space or the exterior shall have a thermal resistance of at least $0.30 \text{ m}^2\text{C/W}$.

9.38.4.2. Enclosed Unheated Space

(1) Where an enclosed unheated space, such as a sun porch, enclosed verandah or vestibule, is separated from a heated space by glazing, the unheated enclosure may be considered to provide thermal resistance of $0.16 \text{ m}^2\text{C/W}$, or the equivalent of one layer of glazing.

9.38.4.3. Maximum Area of Glazing

(1) Except as provided in Articles 9.38.4.4. and 9.38.4.5., the total area of glazing, including glazing for doors and skylights, that separates heated space from unheated space or the exterior shall not exceed 20 per cent of the *floor area* of the *storey* served by the glazed areas and shall not exceed 40 per cent of the total area of the walls of that *storey* separating heated space from unheated space or the exterior. (In the

case of a sloping wall, the area of the opaque portion of the wall is calculated as its projected area on a vertical plane.)

9.38.4.4. Different Thermal Resistance of Glazing

(1) Where the thermal resistance of glazing is different from that required in Articles 9.38.4.1. and 9.38.4.2., the area of such glazing for the purpose of applying Article 9.38.4.3. may be assumed as being equal to the actual area multiplied by the ratio of the required thermal resistance divided by the actual thermal resistance of the glazing.

9.38.4.5. Clear Glass or Shading Coefficient

(1) Except as provided in Article 9.38.4.6., the area of glazing that contains clear glass or that has a shading coefficient of more than 0.70 that is unshaded in the winter and faces a direction within 45° of due South may be assumed to be 50 per cent of its unshaded area in calculating the maximum area of glazing in Articles 9.38.4.3. and 9.38.4.4. provided the *building* is designed with a system that is capable of distributing the solar heat gain from such glazed areas throughout the *building*. For the purpose of determining whether or not the glazing is shaded in the winter, the shading shall be calculated using the noon sun angles of December 21.

9.38.4.6. Building Designed to be Cooled

(1) Article 9.38.4.5. shall not apply where the *building* is designed to be cooled unless the glazing described in 9.38.4.5. is shaded in the summer with exterior devices. For the purpose of determining whether or not the glazing is shaded in the summer, the shading shall be calculated using the noon sun angles of June 21.

9.38.5. Doors and Windows

9.38.5.1. Air Curtains

(1) Air curtains shall not be used in place of exterior doors.

9.38.5.2. Infiltration around Doors

(1) Except for doors used primarily to facilitate the movement of vehicles or handling of material, infiltration around doors shall conform to the appropriate requirements in Subsection 9.38.6.

9.38.5.3. Minimum Thermal Resistance of Doors

(1) Except for doors on enclosed unheated vestibules, all doors separating heated space from the outside shall conform to the appropriate requirements of Article 9.25.2.1.

9.38.5.4. Minimum Thermal Resistance of Windows

(1) Windows shall conform to the appropriate requirements of Article 9.25.2.1.

(2) When *electric space heating* is used, all sliding glass doors separating heated space from unheated space or the outdoors shall have an energy rating of not less than -13 ER.

(3) When *electric space heating* is used, all glazing that separates heated space from unheated space or the outdoors shall have an energy rating of not less than -13 ER for openable windows and 0 ER for fixed glazing.

(4) The energy rating required in Sentences (2) and (3) shall be determined in conformance with CAN/CSA-A440.2-M, "Energy Performance Evaluation of Windows and Sliding Glass Doors".

9.38.6. Infiltration

9.38.6.1. Air Infiltration of Exterior Windows

(1) Windows separating heated space from unheated space or the exterior shall be designed to limit the rate of air infiltration to not more than 0.775 dm³/s for each metre of sash crack when tested at pressure differential of 75 Pa in conformance with ASTM E283, "Standard Method of Test for Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors".

9.38.6.2. Air Infiltration of Exterior Sliding Glass Doors

(1) Manually operated exterior sliding glass door assemblies that separate heated space from unheated space or the exterior shall be designed to limit air infiltration to not more than 2.5 dm³/s for each square metre of door area when tested in conformance with Article 9.38.6.1.

9.38.6.3. Air Infiltration of Exterior Swing Type Doors

(1) Except where the door is weather-stripped on all edges and protected with a storm door or by an enclosed unheated space, exterior swing type door assemblies for *dwelling units*, individually rented hotel and motel rooms and *suites* shall be designed to limit the rate of air infiltration to not more than 6.35 dm³/s for each square metre of door area when tested in conformance with Article 9.38.6.1.

9.38.6.4. Air Infiltration of Other Doors

(1) Door assemblies other than those described in Articles 9.38.6.2. and 9.38.6.3. that separate heated space from unheated space or the exterior shall be designed to limit the rate of air infiltration to not more than 17.0 dm³/s for each metre of door crack when tested in conformance with Article 9.38.6.1.

9.38.6.5. Caulking Materials

(1) Caulking material to reduce air infiltration shall conform to the requirements in Subsection 9.27.4.

9.38.6.6. Sealing of Joints to Prevent Air Leakage

(1) The junction between the sill plate and the *foundation*, joints between exterior wall panels and any other location where there is a possibility of air leakage into heated spaces in a *building* through the exterior walls, such as at utility service entrances, shall be caulked, gasketed or sealed to restrict such air leakage.

9.38.6.7. Air Leakage

(1) Air leakage between heated space and adjacent roof or attic space caused by the penetration of services shall be restricted in conformance with the requirements of Subsection 9.25.3.

9.38.7. Ventilation

9.38.7.1. Minimum Ventilation Rate

(1) Fresh air for the ventilation of rooms and spaces in *buildings of residential occupancy* shall be provided at a rate of at least 0.3 air change per hour by a combination of natural and mechanical ventilation.

Section 9.39. Park Model Trailers**9.39.1. Scope****9.39.1.1. Application**

(1) This Section applies to manufactured *buildings* designed and constructed in conformance with CAN/CSA-Z241 Series-M, "Park Model Trailers" and used or intended to be used as a seasonal recreational *building of residential occupancy*.

9.39.2. General**9.39.2.1. General**

(1) Except as provided in Subsection 9.39.3., a manufactured *building* used or intended to be used as a seasonal recreational *building of residential occupancy* is deemed to comply with this Code if it is designed and constructed in conformance with CAN/CSA-Z241 Series-M, "Park Model Trailers".

9.39.3. Requirements**9.39.3.1. Other Building Components**

(1) The requirements of this Code shall apply to *building* components designed and *constructed* outside the place of manufacture of a *building* described in Article 9.39.1.1.

9.39.3.2. Spatial Separation

(1) *Buildings* described in Article 9.39.1.1. shall comply with Section 9.10 where the *building* is

- (a) used or intended to be used for seasonal tourist accommodation, or
- (b) leased or intended to be leased.

9.39.3.3. Foundations and Anchorage

(1) *Buildings* described in Article 9.39.1.1. shall be supported and anchored in conformance with the manufacturer's installation instructions.

9.39.3.4. Proximity to Above Ground Electrical Conductors

(1) *Buildings* described in Article 9.39.1.1. shall comply with Article 9.1.1.5.

Section 9.40. Construction of Farm Buildings**9.40.1. Scope****9.40.1.1. Application**

(1) This Section applies to *farm buildings of low human occupancy*.

9.40.1.2. Construction Requirements

(1) The construction of *farm buildings of low human occupancy* shall, subject to Article 2.1.1.5., conform to the requirements of this Part except as provided in this Section.

9.40.2. Lumber**9.40.2.1. Lumber Requirements**

(1) Except as permitted by Article 9.40.2.2., lumber shall conform to appropriate requirements in Subsection 9.3.2.

9.40.2.2. Ungraded Lumber

(1) *Ungraded lumber* may be used for wood posts, joists, rafters, lintels, beams and wall studs in a *farm building of low human occupancy* of not more than one storey in *building height*.

9.40.3. Structural Requirements**9.40.3.1. Structural Design**

(1) Except as provided in Articles 9.40.3.2. to 9.40.3.4., wood posts, joists, rafters, lintels, beams and wall studs shall be designed in conformance with Section 9.4.

9.40.3.2. Posts

(1) In a *farm building of low human occupancy*, the size of wood posts shall conform to Tables 9.40.3.2.A. to 9.40.3.2.J. for the loads shown in the Tables.

9.40.3.3. Spans

(1) In a *farm building of low human occupancy*, the spans of wood joists, rafters, lintels and beams shall conform to the spans shown in Tables 9.40.3.3.K. to 9.40.3.3.T. for the loads shown in the Tables.

9.40.3.4. Stud Size and Spacing

(1) In a *farm building of low human occupancy*, the size and spacing of wood studs shall conform to Tables 9.40.3.4.U. to 9.40.3.4.W. for the loads shown in the Tables.

Table 9.40.3.2.A.

Post Sizes for Diaphragm-Braced Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.2.

| Building Width, m | Wall Height, m | Spruce-Pine-Fir, No. 1, Dressed (Post and Timber Grades) | | | | | | | | | | | | | | |
|-------------------|----------------|--|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|
| | | For Wind Loading $q_{10} \leq 0.30$ kPa | | | | | | | | | | | | | | |
| | | Post Spacing, 2.4 m | | | | | Post Spacing, 3.6 m | | | | | Post Spacing, 4.8 m | | | | |
| | | Roof Load, kPa | | | | | Roof Load, kPa | | | | | Roof Load, kPa | | | | |
| | | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 |
| 9.14 | ≤ 3.0 | A | A | A | A | A | A | A | A | A | A | A | A | B | B | B |
| | 3.6 | A | A | A | A | A | A | A | B | B | B | B | B | B | C | C |
| | 4.2 | B | B | B | B | B | B | B | B | C | C | B | C | C | C | C |
| | 4.8 | B | B | B | B | B | B | C | C | C | C | C | C | C | C | C |
| | 6.0 | C | C | C | C | C | C | C | C | D | D | C | D | D | — | — |
| 12.1 | ≤ 3.0 | A | A | A | A | A | A | A | A | B | B | A | B | B | B | C |
| | 3.6 | A | A | A | A | B | A | B | B | B | C | B | B | C | C | C |
| | 4.2 | B | B | B | B | B | B | B | C | C | C | C | C | C | C | C |
| | 4.8 | B | B | B | C | C | C | C | C | C | C | C | C | D | D | D |
| | 6.0 | C | C | C | C | C | C | C | D | D | — | D | D | — | — | — |
| 15.2 | ≤ 3.0 | A | A | A | A | A | A | A | B | B | B | B | B | B | C | C |
| | 3.6 | A | A | A | B | B | B | B | B | C | C | B | C | C | C | C |
| | 4.2 | B | B | B | B | C | B | C | C | C | C | C | C | C | D | D |
| | 4.8 | B | B | C | C | C | C | C | C | C | D | C | C | D | D | — |
| | 6.0 | C | C | C | C | D | C | D | D | — | — | D | — | — | — | — |
| 18.2 | ≤ 3.0 | A | A | A | B | B | A | B | B | B | C | B | B | C | C | C |
| | 3.6 | A | A | B | B | B | B | B | C | C | C | C | C | C | C | D |
| | 4.2 | B | B | B | C | C | C | C | C | C | C | C | C | D | D | D |
| | 4.8 | B | C | C | C | C | C | C | C | D | D | C | D | D | — | — |
| | 6.0 | C | C | C | D | D | D | D | — | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |

Legend - Post Sizes

A = 89 mm x 140 mm
 B = 140 mm x 140 mm
 C = 140 mm x 184 mm
 D = 184 mm x 184 mm

Notes to Table 9.40.3.2.A.:

- (1) Designs are based on load combinations of total roof load and wind load acting at the same time on a closed building.
- (2) Posts shall be oriented with the long dimension parallel to the building width.
- (3) Bracing systems shall be specified by a competent designer.
- (4) Posts shall be situated on footings and shall be anchored to prevent wind uplift.
- (5) Posts shall be constrained against lateral movement at ground level and at the footing. Concrete floor, splash-rail and uplift anchor help to meet this condition.
- (6) Post designs are based on partial fixity condition due to embedment in soil.
- (7) Footing excavations should be backfilled with parent material unless otherwise specified by a competent designer.

Table 9.40.3.2.B.

Post Sizes for Diaphragm-Braced Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.2.

| Building Width, m | Wall Height, m | Spruce-Pine-Fir, No. 1, Dressed (Post and Timber Grades) | | | | | | | | | | | | | | |
|-------------------|----------------|--|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|
| | | For Wind Loading $q_{10} \leq 0.45$ kPa | | | | | | | | | | | | | | |
| | | Post Spacing, 2.4 m | | | | | Post Spacing, 3.6 m | | | | | Post Spacing, 4.8 m | | | | |
| | | Roof Load, kPa | | | | | Roof Load, kPa | | | | | Roof Load, kPa | | | | |
| | | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 |
| 9.14 | ≤ 3.0 | A | A | A | A | A | A | A | A | A | B | A | B | B | B | B |
| | 3.6 | A | A | A | A | A | A | B | B | B | B | B | B | C | C | C |
| | 4.2 | B | B | B | B | B | B | B | C | C | C | C | C | C | C | C |
| | 4.8 | B | B | B | C | C | C | C | C | C | C | C | C | C | D | D |
| | 6.0 | C | C | C | C | C | C | D | D | D | D | D | — | — | — | — |
| 12.1 | ≤ 3.0 | A | A | A | A | A | A | A | B | B | B | B | B | B | C | C |
| | 3.6 | A | A | A | B | B | B | B | B | C | C | C | C | C | C | C |
| | 4.2 | B | B | B | B | C | C | C | C | C | C | C | C | C | C | D |
| | 4.8 | B | C | C | C | C | C | C | C | C | C | C | D | D | D | — |
| | 6.0 | C | C | C | C | D | D | D | D | — | — | — | — | — | — | — |
| 15.2 | ≤ 3.0 | A | A | A | A | B | A | B | B | B | C | B | B | C | C | C |
| | 3.6 | A | A | B | B | B | B | B | C | C | C | C | C | C | C | D |
| | 4.2 | B | B | B | C | C | C | C | C | C | C | C | C | D | D | D |
| | 4.8 | B | C | C | C | C | C | C | C | D | D | C | D | D | — | — |
| | 6.0 | C | C | C | D | D | D | D | — | — | — | — | — | — | — | — |
| 18.2 | ≤ 3.0 | A | A | A | B | B | B | B | B | C | C | B | C | C | C | C |
| | 3.6 | A | B | B | B | C | B | C | C | C | C | C | C | C | D | D |
| | 4.2 | B | B | C | C | C | C | C | C | C | D | C | D | D | D | — |
| | 4.8 | C | C | C | C | C | C | C | D | D | — | D | D | — | — | — |
| | 6.0 | C | C | D | D | — | D | — | — | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |

Legend - Post Sizes

A = 89 mm x 140 mm
 B = 140 mm x 140 mm
 C = 140 mm x 184 mm
 D = 184 mm x 184 mm

Notes to Table 9.40.3.2.B.:

- (1) Designs are based on load combinations of total roof load and wind load acting at the same time on a closed building.
- (2) Posts shall be oriented with the long dimension parallel to the building width.
- (3) Bracing systems shall be specified by a competent designer.
- (4) Posts shall be situated on footings and shall be anchored to prevent wind uplift.
- (5) Posts shall be constrained against lateral movement at ground level and at the footing. Concrete floor, splash-rail and uplift anchor help to meet this condition.
- (6) Post designs are based on partial fixity condition due to embedment in soil.
- (7) Footing excavations should be backfilled with parent material unless otherwise specified by a competent designer.

Table 9.40.3.2.C.

Post Sizes for Knee-Braced Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.2.

| Building Width, m | Wall Height, m | Spruce-Pine-Fir, No. 1, Dressed (Post and Timber Grades) | | | | | | | | | | | | | | |
|-------------------|----------------|--|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|
| | | For Wind Loading $q_{10} \leq 0.30$ kPa | | | | | | | | | | | | | | |
| | | Post Spacing, 2.4 m | | | | | Post Spacing, 3.6 m | | | | | Post Spacing, 4.8 m | | | | |
| | | Roof Load, kPa | | | | | Roof Load, kPa | | | | | Roof Load, kPa | | | | |
| | | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 |
| 9.14 | ≤ 3.0 | A | A | A | A | A | A | A | A | B | B | A | B | B | B | C |
| | 3.6 | A | A | A | A | B | A | B | B | B | C | B | C | C | C | C |
| | 4.2 | B | B | B | B | B | B | C | C | C | C | C | C | C | C | C |
| | 4.8 | C | C | C | C | C | C | C | C | C | C | C | C | C | D | D |
| | 6.0 | C | C | C | C | C | C | D | D | D | — | D | — | — | — | — |
| 12.1 | ≤ 3.0 | A | A | A | A | A | A | A | B | B | B | B | B | C | C | C |
| | 3.6 | A | A | B | B | B | B | B | C | C | C | C | C | C | C | C |
| | 4.2 | B | B | B | C | C | C | C | C | C | C | C | C | C | D | D |
| | 4.8 | C | C | C | C | C | C | C | C | D | D | C | D | D | — | — |
| | 6.0 | C | C | C | D | D | D | D | — | — | — | — | — | — | — | — |
| 15.2 | ≤ 3.0 | A | A | A | B | B | A | B | B | C | C | B | C | C | C | C |
| | 3.6 | A | B | B | B | C | B | C | C | C | C | C | C | C | C | D |
| | 4.2 | B | B | C | C | C | C | C | C | C | D | C | C | D | D | — |
| | 4.8 | C | C | C | C | C | C | C | D | D | — | D | D | — | — | — |
| | 6.0 | C | C | D | D | — | D | — | — | — | — | — | — | — | — | — |
| 18.2 | ≤ 3.0 | A | A | B | B | B | B | B | C | C | C | B | C | C | C | D |
| | 3.6 | B | B | B | C | C | C | C | C | C | C | C | C | C | D | D |
| | 4.2 | B | C | C | C | C | C | C | C | D | D | C | D | D | — | — |
| | 4.8 | C | C | C | C | D | C | D | D | — | — | D | — | — | — | — |
| | 6.0 | C | D | D | — | — | — | — | — | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |

Legend - Post Sizes

A = 89 mm x 140 mm
 B = 140 mm x 140 mm
 C = 140 mm x 184 mm
 D = 184 mm x 184 mm

Notes to Table 9.40.3.2.C.:

- (1) Designs are based on load combinations of total roof load and wind load acting at the same time on a closed building.
- (2) Posts shall be oriented with the long dimension parallel to the building width.
- (3) Bracing systems shall be specified by a competent designer.
- (4) Posts shall be situated on footings and shall be anchored to prevent wind uplift.
- (5) Posts shall be constrained against lateral movement at ground level and at the footing. Concrete floor, splash-rail and uplift anchor help to meet this condition.
- (6) Post designs are based on partial fixity condition due to embedment in soil.
- (7) Footing excavations should be backfilled with parent material unless otherwise specified by a competent designer.

Table 9.40.3.2.D.

Post Sizes for Knee-Braced Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.2.

| Building Width, m | Wall Height, m | Spruce-Pine-Fir, No. 1, Dressed (Post and Timber Grades) | | | | | | | | | | | | | | |
|-------------------|----------------|--|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|
| | | For Wind Loading $q_{10} \leq 0.45 \text{ kPa}$ | | | | | | | | | | | | | | |
| | | Post Spacing, 2.4 m | | | | | Post Spacing, 3.6 m | | | | | Post Spacing, 4.8 m | | | | |
| | | Roof Load, kPa | | | | | Roof Load, kPa | | | | | Roof Load, kPa | | | | |
| | | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 |
| 9.14 | ≤ 3.0 | A | A | A | A | A | A | A | B | B | B | B | B | B | C | C |
| | 3.6 | A | A | A | B | B | B | B | B | C | C | C | C | C | C | C |
| | 4.2 | B | B | B | B | C | C | C | C | C | C | C | C | C | C | D |
| | 4.8 | C | C | C | C | C | C | C | C | C | D | C | D | D | D | — |
| | 6.0 | C | C | C | C | D | D | D | — | — | — | — | — | — | — | — |
| 12.1 | ≤ 3.0 | A | A | A | A | B | A | B | B | B | C | B | B | C | C | C |
| | 3.6 | B | B | B | B | B | B | C | C | C | C | C | C | C | C | C |
| | 4.2 | B | B | C | C | C | C | C | C | C | C | C | C | D | D | D |
| | 4.8 | C | C | C | C | C | C | C | D | D | D | D | D | — | — | — |
| | 6.0 | C | C | D | D | D | D | — | — | — | — | — | — | — | — | — |
| 15.2 | ≤ 3.0 | A | A | B | B | B | B | B | B | C | C | B | C | C | C | C |
| | 3.6 | A | B | B | C | C | C | C | C | C | C | C | C | C | D | D |
| | 4.2 | B | C | C | C | C | C | C | C | D | D | C | D | D | — | — |
| | 4.8 | C | C | C | C | C | C | D | D | D | — | D | — | — | — | — |
| | 6.0 | C | D | D | — | — | — | — | — | — | — | — | — | — | — | — |
| 18.2 | ≤ 3.0 | A | A | B | B | B | B | B | C | C | C | C | C | C | C | D |
| | 3.6 | B | B | C | C | C | C | C | C | C | D | C | C | D | D | — |
| | 4.2 | C | C | C | C | C | C | C | D | D | D | D | D | — | — | — |
| | 4.8 | C | C | C | D | D | C | D | — | — | — | D | — | — | — | — |
| | 6.0 | D | D | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |

Legend - Post Sizes

A = 89 mm x 140 mm
 B = 140 mm x 140 mm
 C = 140 mm x 184 mm
 D = 184 mm x 184 mm

Notes to Table 9.40.3.2.D.:

- (1) Designs are based on load combinations of total roof load and wind load acting at the same time on a closed building.
- (2) Posts shall be oriented with the long dimension parallel to the building width.
- (3) Bracing systems shall be specified by a competent designer.
- (4) Posts shall be situated on footings and shall be anchored to prevent wind uplift.
- (5) Posts shall be constrained against lateral movement at ground level and at the footing. Concrete floor, splash-rail and uplift anchor help to meet this condition.
- (6) Post designs are based on partial fixity condition due to embedment in soil.
- (7) Footing excavations should be backfilled with parent material unless otherwise specified by a competent designer.

Table 9.40.3.2.E.

Post Sizes for Diaphragm-Braced Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.2.

| Building Width, m | Wall Height, m | Ungraded Lumber, Full-Dimensioned | | | | | | | | | | | | | | |
|-------------------|----------------|---|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|
| | | For Wind Loading $q_{10} \leq 0.30$ kPa | | | | | | | | | | | | | | |
| | | Post Spacing, 2.4 m | | | | | Post Spacing, 3.6 m | | | | | Post Spacing, 4.8 m | | | | |
| | | Roof Load, kPa | | | | | Roof Load, kPa | | | | | Roof Load, kPa | | | | |
| | | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 |
| 9.14 | ≤ 3.0 | A | A | A | A | A | A | A | A | B | B | A | B | B | C | C |
| | 3.6 | A | A | A | A | B | A | B | B | B | C | B | C | C | C | C |
| | 4.2 | B | B | B | B | B | B | B | C | C | C | C | C | C | C | D |
| | 4.8 | B | B | B | B | C | C | C | C | C | C | C | C | C | D | D |
| | 6.0 | C | C | C | C | C | C | C | D | D | D | D | D | — | — | — |
| 12.1 | ≤ 3.0 | A | A | A | A | B | A | B | B | B | C | B | B | C | C | C |
| | 3.6 | A | A | B | B | B | B | B | C | C | C | C | C | C | C | D |
| | 4.2 | B | B | B | B | C | B | C | C | C | C | C | C | D | D | D |
| | 4.8 | B | B | C | C | C | C | C | C | C | D | C | D | D | D | — |
| | 6.0 | C | C | C | C | D | C | D | D | — | — | D | — | — | — | — |
| 15.2 | ≤ 3.0 | A | A | A | B | B | B | B | C | C | C | B | C | C | D | D |
| | 3.6 | A | B | B | B | C | B | C | C | C | C | C | C | D | D | D |
| | 4.2 | B | B | C | C | C | C | C | C | D | D | C | D | D | — | — |
| | 4.8 | B | C | C | C | C | C | C | D | D | D | D | D | — | — | — |
| | 6.0 | C | C | C | D | D | D | D | — | — | — | — | — | — | — | — |
| 18.2 | ≤ 3.0 | A | A | B | B | C | B | B | C | C | D | C | C | D | D | — |
| | 3.6 | A | B | B | C | C | C | C | C | D | D | C | D | D | — | — |
| | 4.2 | B | C | C | C | C | C | C | D | D | D | C | D | — | — | — |
| | 4.8 | C | C | C | C | D | C | D | D | — | — | D | — | — | — | — |
| | 6.0 | C | C | D | D | — | D | — | — | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |

Legend - Post Sizes

A = 101.6 mm x 152.4 mm

B = 152.4 mm x 152.4 mm

C = 152.4 mm x 203.2 mm

D = 203.2 mm x 203.2 mm

Notes to Table 9.40.3.2.E:

- (1) Designs are based on load combinations of total roof load and wind load acting at the same time on a closed building.
- (2) Posts shall be oriented with the long dimension parallel to the building width.
- (3) Bracing systems shall be specified by a competent designer.
- (4) Posts shall be situated on footings and shall be anchored to prevent wind uplift.
- (5) Posts shall be constrained against lateral movement at ground level and at the footing. Concrete floor, splash-rail and uplift anchor help to meet this condition.
- (6) Post designs are based on partial fixity condition due to embedment in soil.
- (7) Footing excavations should be backfilled with parent material unless otherwise specified by a competent designer.

Table 9.40.3.2.F.

Post Sizes for Diaphragm-Braced Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.2.

| Building Width, m | Wall Height, m | Ungraded Lumber, Full-Dimensioned | | | | | | | | | | | | | | |
|-------------------|----------------|---|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|
| | | For Wind Loading $q_{10} \leq 0.45$ kPa | | | | | | | | | | | | | | |
| | | Post Spacing, 2.4 m | | | | | Post Spacing, 3.6 m | | | | | Post Spacing, 4.8 m | | | | |
| | | Roof Load, kPa | | | | | Roof Load, kPa | | | | | Roof Load, kPa | | | | |
| | | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 |
| 9.14 | ≤ 3.0 | A | A | A | A | A | A | A | B | B | B | B | B | C | C | C |
| | 3.6 | A | A | A | B | B | B | B | B | C | C | C | C | C | C | C |
| | 4.2 | B | B | B | B | C | C | C | C | C | C | C | C | C | D | D |
| | 4.8 | B | B | C | C | C | C | C | C | C | D | C | D | D | D | — |
| | 6.0 | C | C | C | C | C | D | D | D | — | — | — | — | — | — | — |
| 12.1 | ≤ 3.0 | A | A | A | B | B | B | B | B | C | C | B | C | C | C | C |
| | 3.6 | A | A | B | B | B | B | C | C | C | C | C | C | C | D | D |
| | 4.2 | B | B | B | C | C | C | C | C | C | D | C | D | D | D | — |
| | 4.8 | B | C | C | C | C | C | C | D | D | D | D | D | — | — | — |
| | 6.0 | C | C | C | D | D | D | D | — | — | — | — | — | — | — | — |
| 15.2 | ≤ 3.0 | A | A | B | B | B | B | B | C | C | C | C | C | C | D | D |
| | 3.6 | A | B | B | C | C | C | C | C | C | D | C | C | D | D | — |
| | 4.2 | B | C | C | C | C | C | C | C | D | D | D | D | D | — | — |
| | 4.8 | C | C | C | C | C | C | D | D | D | — | D | — | — | — | — |
| | 6.0 | C | C | D | D | — | D | — | — | — | — | — | — | — | — | — |
| 18.2 | ≤ 3.0 | A | B | B | B | C | B | C | C | C | D | C | C | D | D | — |
| | 3.6 | B | B | C | C | C | C | C | C | D | D | C | D | D | — | — |
| | 4.2 | B | C | C | C | C | C | C | D | D | — | D | D | — | — | — |
| | 4.8 | C | C | C | C | D | D | D | D | — | — | — | — | — | — | — |
| | 6.0 | C | D | D | — | — | — | — | — | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |

Legend - Post Sizes

A = 101.6 mm x 152.4 mm

B = 152.4 mm x 152.4 mm

C = 152.4 mm x 203.2 mm

D = 203.2 mm x 203.2 mm

Notes to Table 9.40.3.2.F:

- (1) Designs are based on load combinations of total roof load and wind load acting at the same time on a closed building.
- (2) Posts shall be oriented with the long dimension parallel to the building width.
- (3) Bracing systems shall be specified by a competent designer.
- (4) Posts shall be situated on footings and shall be anchored to prevent wind uplift.
- (5) Posts shall be constrained against lateral movement at ground level and at the footing. Concrete floor, splash-rail and uplift anchor help to meet this condition.
- (6) Post designs are based on partial fixity condition due to embedment in soil.
- (7) Footing excavations should be backfilled with parent material unless otherwise specified by a competent designer.

Table 9.40.3.2.G.

Post Sizes for Knee-Braced Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.2.

| Building Width, m | Wall Height, m | Ungraded Lumber, Full-Dimensioned | | | | | | | | | | | | | | |
|-------------------|----------------|---|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|
| | | For Wind Loading $q_{10} \leq 0.30$ kPa | | | | | | | | | | | | | | |
| | | Post Spacing, 2.4 m | | | | | Post Spacing, 3.6 m | | | | | Post Spacing, 4.8 m | | | | |
| | | Roof Load, kPa | | | | | Roof Load, kPa | | | | | Roof Load, kPa | | | | |
| | | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 |
| 9.14 | ≤ 3.0 | A | A | A | A | A | A | A | B | B | B | B | B | C | C | C |
| | 3.6 | A | A | A | B | B | B | B | B | C | C | B | C | C | C | C |
| | 4.2 | B | B | B | B | C | B | C | C | C | C | C | C | C | D | D |
| | 4.8 | C | C | C | C | C | C | C | C | C | D | C | C | D | D | — |
| | 6.0 | C | C | C | C | D | C | D | D | — | — | D | — | — | — | — |
| 12.1 | ≤ 3.0 | A | A | A | B | B | A | B | B | C | C | B | C | C | C | D |
| | 3.6 | A | B | B | B | C | B | C | C | C | C | C | C | C | D | D |
| | 4.2 | B | B | C | C | C | C | C | C | C | D | C | C | D | D | — |
| | 4.8 | C | C | C | C | C | C | C | D | D | D | D | D | — | — | — |
| | 6.0 | C | C | C | D | D | D | D | — | — | — | — | — | — | — | — |
| 15.2 | ≤ 3.0 | A | A | B | B | B | B | B | C | C | C | C | C | C | D | D |
| | 3.6 | A | B | B | C | C | C | C | C | C | D | C | C | D | D | — |
| | 4.2 | B | C | C | C | C | C | C | D | D | D | C | D | — | — | — |
| | 4.8 | C | C | C | C | D | C | D | D | — | — | D | — | — | — | — |
| | 6.0 | C | D | D | D | — | D | — | — | — | — | — | — | — | — | — |
| 18.2 | ≤ 3.0 | A | B | B | C | C | B | C | C | C | D | C | C | D | D | — |
| | 3.6 | B | B | C | C | C | C | C | C | D | D | C | D | D | — | — |
| | 4.2 | C | C | C | C | D | C | C | D | — | — | D | D | — | — | — |
| | 4.8 | C | C | C | D | D | C | D | — | — | — | D | — | — | — | — |
| | 6.0 | C | D | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |

Legend - Post Sizes

A = 101.6 mm x 152.4 mm
 B = 152.4 mm x 152.4 mm
 C = 152.4 mm x 203.2 mm
 D = 203.2 mm x 203.2 mm

Notes to Table 9.40.3.2.G

- (1) Designs are based on load combinations of total roof load and wind load acting at the same time on a closed building.
- (2) Posts shall be oriented with the long dimension parallel to the building width.
- (3) Bracing systems shall be specified by a competent designer.
- (4) Posts shall be situated on footings and shall be anchored to prevent wind uplift.
- (5) Posts shall be constrained against lateral movement at ground level and at the footing. Concrete floor, splash-rail and uplift anchor help to meet this condition.
- (6) Post designs are based on partial fixity condition due to embedment in soil.
- (7) Footing excavations should be backfilled with parent material unless otherwise specified by a competent designer.

Table 9.40.3.2.H.

Post Sizes for Knee-Braced Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.2.

| Building Width, m | Wall Height, m | Ungraded Lumber, Full-Dimensioned | | | | | | | | | | | | | | |
|-------------------|----------------|---|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|
| | | For Wind Loading $q_{10} \leq 0.45$ kPa | | | | | | | | | | | | | | |
| | | Post Spacing, 2.4 m | | | | | Post Spacing, 3.6 m | | | | | Post Spacing, 4.8 m | | | | |
| | | Roof Load, kPa | | | | | Roof Load, kPa | | | | | Roof Load, kPa | | | | |
| | | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 |
| 9.14 | ≤ 3.0 | A | A | A | A | B | A | B | B | B | C | B | C | C | C | C |
| | 3.6 | A | A | B | B | B | B | C | C | C | C | C | C | C | C | D |
| | 4.2 | B | B | B | C | C | C | C | C | C | C | C | C | D | D | D |
| | 4.8 | C | C | C | C | C | C | C | C | D | D | D | D | D | — | — |
| | 6.0 | C | C | C | D | D | D | D | — | — | — | — | — | — | — | — |
| 12.1 | ≤ 3.0 | A | A | B | B | B | B | B | C | C | C | C | C | C | C | D |
| | 3.6 | A | B | B | C | C | C | C | C | C | C | C | C | D | D | D |
| | 4.2 | B | C | C | C | C | C | C | C | D | D | C | D | D | — | — |
| | 4.8 | C | C | C | C | C | C | D | D | D | — | D | — | — | — | — |
| | 6.0 | C | D | D | D | — | — | — | — | — | — | — | — | — | — | — |
| 15.2 | ≤ 3.0 | A | B | B | B | C | B | C | C | C | C | C | C | D | D | D |
| | 3.6 | B | B | C | C | C | C | C | C | D | D | C | D | D | — | — |
| | 4.2 | C | C | C | C | C | C | C | D | D | — | D | D | — | — | — |
| | 4.8 | C | C | C | D | D | D | D | — | — | — | — | — | — | — | — |
| | 6.0 | D | D | D | — | — | — | — | — | — | — | — | — | — | — | — |
| 18.2 | ≤ 3.0 | A | B | B | C | C | C | C | C | D | D | C | D | D | — | — |
| | 3.6 | B | C | C | C | C | C | C | D | D | — | D | D | — | — | — |
| | 4.2 | C | C | C | C | C | C | C | D | D | — | D | D | — | — | — |
| | 4.8 | C | C | C | C | D | C | D | D | — | — | D | — | — | — | — |
| | 6.0 | C | C | D | D | D | D | — | — | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |

Legend - Post Sizes

A = 101.6 mm x 152.4 mm

B = 152.4 mm x 152.4 mm

C = 152.4 mm x 203.2 mm

D = 203.2 mm x 203.2 mm

Notes to Table 9.40.3.2.H.:

- (1) Designs are based on load combinations of total roof load and wind load acting at the same time on a closed building.
- (2) Posts shall be oriented with the long dimension parallel to the building width.
- (3) Bracing systems shall be specified by a competent designer.
- (4) Posts shall be situated on footings and shall be anchored to prevent wind uplift.
- (5) Posts shall be constrained against lateral movement at ground level and at the footing. Concrete floor, splash-rail and uplift anchor help to meet this condition.
- (6) Post designs are based on partial fixity condition due to embedment in soil.
- (7) Footing excavations should be backfilled with parent material unless otherwise specified by a competent designer.

Table 9.40.3.2.I.

Post Sizes for Farm Buildings of Low Human Occupancy (With Second Storey Loading)

Forming Part of Article 9.40.3.2.

| Side wall Height, m | Total Roof Load, kPa | Spruce-Pine-Fir, No. 1, Dressed (Post and Timber Grades) | | | | | | | | | | | | | | | | Second Storey Plate, kN/m |
|---------------------|----------------------|--|------|------|------|-------------------|------|------|------|---------------------------|------|------|------|-------------------|------|------|------|---------------------------|
| | | Wind load: q10 ≤ 0.30 kPa | | | | | | | | Wind load: q10 ≤ 0.45 kPa | | | | | | | | |
| | | 2.4 m o.c. | | | | 3.600 m o.c. | | | | 2.400 m o.c. | | | | 3.600 m o.c. | | | | |
| | | Building Width, m | | | | Building Width, m | | | | Building Width, m | | | | Building Width, m | | | | |
| | | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 | |
| 3.0 | 1.9 | A | A | A | A | A | A | B | B | A | A | A | A | A | B | B | B | 14.6 |
| | 2.4 | A | A | A | A | A | B | B | B | A | A | A | B | A | B | B | B | |
| | 2.8 | A | A | A | B | A | B | B | C | A | A | B | B | B | B | B | C | |
| | 3.3 | A | A | B | B | B | B | B | C | A | A | B | B | B | B | C | C | |
| 3.6 | 1.9 | A | A | A | B | A | B | B | C | A | A | B | B | B | B | C | C | 14.6 |
| | 2.4 | A | A | B | B | B | B | C | C | A | B | B | B | B | C | C | C | |
| | 2.8 | A | B | B | B | B | B | C | C | A | B | B | B | B | C | C | C | |
| | 3.3 | A | B | B | C | B | C | C | C | B | B | B | C | C | C | C | C | |
| 3.0 | 1.9 | A | A | A | A | A | A | B | B | A | A | A | A | A | A | B | B | 7.3 |
| | 2.4 | A | A | A | A | A | A | B | B | A | A | A | A | A | B | B | B | |
| | 2.8 | A | A | A | B | A | B | B | B | A | A | A | B | B | B | B | C | |
| | 3.3 | A | A | B | B | B | B | B | C | A | A | B | B | B | B | C | C | |
| 3.6 | 1.9 | A | A | A | B | A | B | B | B | A | A | B | B | B | B | C | C | 7.3 |
| | 2.4 | A | A | B | B | B | B | C | C | A | B | B | B | B | B | C | C | |
| | 2.8 | A | A | B | B | B | B | C | C | A | B | B | B | B | C | C | C | |
| | 3.3 | A | B | B | B | B | C | C | C | B | B | B | C | C | C | C | C | |
| 3.0 | 1.9 | A | A | A | A | A | A | A | B | A | A | A | A | A | A | B | B | 3.6 |
| | 2.4 | A | A | A | A | A | A | B | B | A | A | A | A | A | B | B | B | |
| | 2.8 | A | A | A | B | A | A | B | B | A | A | A | B | B | B | B | C | |
| | 3.3 | A | A | A | B | A | B | B | C | A | A | B | B | B | B | C | C | |
| 3.6 | 1.9 | A | A | A | B | A | B | B | B | A | A | A | B | B | B | B | C | 3.6 |
| | 2.4 | A | A | B | B | B | B | B | C | A | A | B | B | B | B | C | C | |
| | 2.8 | A | A | B | B | B | B | C | C | A | B | B | B | B | C | C | C | |
| | 3.3 | A | B | B | B | B | C | C | C | A | B | B | C | B | C | C | C | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |

Legend - Post Sizes

A = 89 mm x 140 mm

B = 140 mm x 140 mm

C = 140 mm x 184 mm

Notes to Table 9.40.3.2.I.:

- Designs are based on load combinations of total roof load, wind load and stored product acting at the same time on a closed building.
- All notes following Table 9.40.3.2.A. apply, with the following conditions/exceptions:
 - 14.6 kN/m loading: Full 4.8 m sidewall hay/straw storage space above. It is supported by beams spaced at 3.6 m o.c. The outside plate carries a 1.8 m floor width. If the loading is greater, refer to a qualified person for design.
 - 7.3 kN/m loading: Full 2.4 m sidewall hay/straw storage space above or a gambrel roof structure > 9.14 m in total width. Floor support beams as above.
 - 3.6 kN/m loading: Small gambrel roof structure or storage space for light storage. Floor support beams as above.

Table 9.40.3 2.J.

Round Posts

Forming Part of Article 9.40.3.2.

| <i>Ungraded Lumber</i> Full-dimension Size, mm | Equivalent Diameter Full Size, mm |
|--|--------------------------------------|
| 50.8 x 101.6 | 101.6 |
| 50.8 x 152.4 | 127.0 |
| 50.8 x 203.2 | 152.4 |
| 50.8 x 254.0 | 177.8 |
| 50.8 x 304.8 | 203.2 |
| 76.2 x 304.8 | 228.6 |
| 76.2 x 355.6 | 254.0 |
| 101.6 x 152.4 | 158.8 |
| 101.6 x 304.8 | 203.2 |
| 101.6 x 355.6 | 279.4 |
| 127.0 x 203.2 | 209.6 |
| 127.0 x 254.0 | 241.3 |
| 152.4 x 152.4 | 190.5 |
| 152.4 x 203.2 | 222.3 |
| 152.4 x 254.0 | 260.4 |
| 203.2 x 203.2 | 247.7 |
| 203.2 x 254.0 | 285.8 |
| 203.2 x 304.8 | 317.5 |
| 254.0 x 304.8 | 342.9 |
| 254.0 x 355.6 | 381.0 |
| Column 1 | 2 |

Notes to Table 9.40.3.2.J.:

- (1) When selecting round, *ungraded lumber*, ensure that the material is of good quality.
- (2) Any timber that is in contact with ground shall be chemically treated to resist growth of fungus and decay.
- (3) Equivalent diameter indicated in this Table refers to the smallest diameter of a tapering pole.
- (4) Used hydro or telephone poles may be used if they are of good quality and are chemically treated to prevent decay.
- (5) Indicated equivalent diameter will provide bending, shear and deflection resisting capabilities equal to or better than the rectangular section that it replaces.

Table 9.40.3.3.K.

Common Rafter Sizes for Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.3.

| Rafter Span, m | Spruce-Pine-Fir, No. 1 and No. 2 (Dressed Lumber) | | | | | | | | | | | | | | |
|-------------------|---|-----|-----|-----|-----|----------------|-----|-----|-----|-----|----------------|-----|-----|-----|-----|
| | Rafter Spacing | | | | | | | | | | | | | | |
| | 300 mm | | | | | 400 mm | | | | | 600 mm | | | | |
| | Live Load, kPa | | | | | Live Load, kPa | | | | | Live Load, kPa | | | | |
| | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 |
| 2.4 | A | A | B | B | B | A | B | B | B | B | B | B | B | B | B |
| 3.0 | B | B | B | B | B | B | B | B | B | C | B | B | C | C | D |
| 3.6 | B | B | C | C | C | B | C | C | C | C | C | C | D | D | D |
| 4.2 | B | C | C | C | C | C | C | C | D | D | C | D | D | E | E |
| 4.8 | C | C | D | D | D | C | D | D | E | E | D | E | E | — | — |
| 5.4 | C | D | D | D | E | D | D | E | E | — | E | E | — | — | — |
| 6.0 | D | D | D | E | — | D | E | E | — | — | E | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

Legend - Rafter Sizes

A = 38 mm x 89 mm
 B = 38 mm x 140 mm
 C = 38 mm x 184 mm
 D = 38 mm x 235 mm
 E = 38 mm x 286 mm

Note to Table 9.40.3.3.K.:

(1) The rafter span is the unsupported length of the rafter from plate to plate or from plate to ridge. A dead load of 0.24 kPa is incorporated to allow for weight of the roof sheathing and rafter.

Table 9.40.3.3.L.

Common Rafter Sizes for Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.3.

| Rafter Span, m | Ungraded Lumber, Full-Dimension | | | | | | | | | | | | | | |
|-------------------|---------------------------------|-----|-----|-----|-----|----------------|-----|-----|-----|-----|----------------|-----|-----|-----|-----|
| | Rafter Spacing | | | | | | | | | | | | | | |
| | 300 mm | | | | | 400 mm | | | | | 600 mm | | | | |
| | Live Load, kPa | | | | | Live Load, kPa | | | | | Live Load, kPa | | | | |
| | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 | 1.4 | 1.9 | 2.4 | 2.8 | 3.3 |
| 2.4 | A | A | B | B | B | B | B | B | B | C | B | B | C | C | D |
| 3.0 | B | B | B | C | C | B | C | C | C | D | C | C | D | D | E |
| 3.6 | B | C | C | D | D | C | C | D | D | E | D | D | E | F | F |
| 4.2 | C | C | D | D | E | D | D | E | E | F | E | F | F | F | G |
| 4.8 | C | D | E | E | F | D | E | F | F | F | F | F | F | G | I |
| 5.4 | D | E | F | F | F | E | F | F | F | G | F | G | H | I | — |
| 6.0 | E | F | F | F | G | F | F | G | G | I | F | H | I | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

Legend - Rafter Sizes

A = 50.8 mm x 101.6 mm
 B = 50.8 mm x 152.4 mm
 C = 50.8 mm x 203.2 mm
 D = 50.8 mm x 254.0 mm
 E = 50.8 mm x 304.8 mm
 F = 76.2 mm x 304.8 mm
 G = 76.2 mm x 355.6 mm
 H = 101.6 mm x 304.8 mm
 I = 101.6 mm x 355.6 mm

Note to Table 9.40.3.3.L.:

(1) The rafter span is the unsupported length of the rafter from plate to plate or from plate to ridge. A dead load of 0.24 kPa is incorporated to allow for weight of the roof sheathing and rafter.

Table 9.40.3.3.M.

Floor Joists for Farm Buildings of Low Human Occupancy -Intermittent Loads⁽¹⁾

Forming Part of Article 9.40.3.3.

| Joist Span, m | Spruce-Pine-Fir, No. 1 and No. 2 (Dressed Lumber) | | | | | | | | | | | | | | | | | |
|------------------|---|-----|-----|-----|-----|-----|----------------|-----|-----|-----|-----|-----|----------------|-----|-----|-----|-----|-----|
| | Joist Spacing | | | | | | | | | | | | | | | | | |
| | 300 mm | | | | | | 400 mm | | | | | | 600 mm | | | | | |
| | Live Load, kPa | | | | | | Live Load, kPa | | | | | | Live Load, kPa | | | | | |
| | 1.9 | 2.8 | 3.8 | 4.8 | 6.7 | 8.6 | 1.9 | 2.8 | 3.8 | 4.8 | 6.7 | 8.6 | 1.9 | 2.8 | 3.8 | 4.8 | 6.7 | 8.6 |
| 2.4 | A | B | B | B | B | C | B | B | B | B | C | C | B | B | B | C | D | D |
| 3.0 | B | B | B | C | C | D | B | B | C | C | D | D | B | C | C | D | E | — |
| 3.6 | B | C | C | C | D | D | C | C | C | D | E | E | C | D | D | E | — | — |
| 4.2 | C | C | D | D | E | E | C | D | D | E | — | — | D | D | E | — | — | — |
| 4.8 | C | D | D | E | — | — | D | D | E | E | — | — | D | E | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |

Legend - Joist Sizes

A = 38 mm x 89 mm

B = 38 mm x 140 mm

C = 38 mm x 184 mm

D = 38 mm x 235 mm

E = 38 mm x 286 mm

Notes to Table 9.40.3.3.M.:

(1) Loads are applied to the floor intermittently. (When loads are applied for extended periods of time, use Table 9.40.3.3.N.).

(2) A dead load of 0.48 kPa is incorporated to allow for the dead weight of the floor system.

Table 9.40.3.3.N.

Floor Joists for Farm Buildings of Low Human Occupancy-Continuous Loads⁽¹⁾

Forming Part of Article 9.40.3.3.

| Joist Span, m | Spruce-Pine-Fir, No. 1 and No. 2 (Dressed Lumber) | | | | | | | | | | | | | | | | | |
|------------------|---|-----|-----|-----|-----|-----|----------------|-----|-----|-----|-----|-----|----------------|-----|-----|-----|-----|-----|
| | Joist Spacing | | | | | | | | | | | | | | | | | |
| | 300 mm | | | | | | 400 mm | | | | | | 600 mm | | | | | |
| | Live Load, kPa | | | | | | Live Load, kPa | | | | | | Live Load, kPa | | | | | |
| | 1.9 | 2.8 | 3.8 | 4.8 | 6.7 | 8.6 | 1.9 | 2.8 | 3.8 | 4.8 | 6.7 | 8.6 | 1.9 | 2.8 | 3.8 | 4.8 | 6.7 | 8.6 |
| 2.4 | A | B | B | B | C | C | B | B | B | C | D | E | B | C | C | D | — | — |
| 3.0 | B | B | C | C | D | E | B | C | C | D | E | — | C | D | D | E | — | — |
| 3.6 | B | C | D | D | E | — | C | D | D | E | — | — | D | E | — | — | — | — |
| 4.2 | C | D | D | E | — | — | D | E | E | — | — | — | E | — | — | — | — | — |
| 4.8 | D | D | E | — | — | — | D | E | — | — | — | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |

Legend - Joist Sizes

A = 38 mm x 89 mm

B = 38 mm x 140 mm

C = 38 mm x 184 mm

D = 38 mm x 235 mm

E = 38 mm x 286 mm

Notes to Table 9.40.3.3.N.:

(1) For use of floors that support hay, straw, grain or other continuous loads.

(2) A dead load of 0.48 kPa is incorporated to allow for the dead weight of the floor system.

Table 9.40.3.3.O.

Built-up Wood Beam Sizes for Farm Buildings of Low Human Occupancy—Intermittent Loads⁽¹⁾

Forming Part of Article 9.40.3.3.

| Beam Span, m | Spruce-Pine-Fir, No. 1 and No. 2 (Dressed Lumber) | | | | | | | | | | |
|--------------|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Total Load on Beam, kN/m | | | | | | | | | | |
| | 5.84 | 8.76 | 11.67 | 14.59 | 17.51 | 20.43 | 23.35 | 26.27 | 29.19 | 32.11 | 35.03 |
| 1.8 | A | A | A | B | B | D | D | G | G | J | L |
| 2.4 | A | A | B | D | E | H | J | L | — | — | — |
| 3.0 | A | C | E | H | J | K | — | — | — | — | — |
| 3.6 | C | H | J | L | — | — | — | — | — | — | — |
| 4.2 | E | J | L | — | — | — | — | — | — | — | — |
| 4.8 | I | L | — | — | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

Legend - Beam Sizes

A = 3 – 38 mm x 184 mm
 B = 4 – 38 mm x 184 mm
 C = 3 – 38 mm x 235 mm
 D = 5 – 38 mm x 184 mm
 E = 3 – 38 mm x 286 mm
 F = 4 – 38 mm x 235 mm
 G = 6 – 38 mm x 184 mm
 H = 5 – 38 mm x 235 mm
 I = 4 – 38 mm x 286 mm
 J = 6 – 38 mm x 235 mm
 K = 5 – 38 mm x 286 mm
 L = 6 – 38 mm x 286 mm

Notes to Table 9.40.3.3.O.:

- (1) Loads are applied to the beam intermittently.
- (2) A *dead load* of 0.584 kN/m is assumed for all beams.
- (3) Floors systems supporting heavy loads over larger spans will require the use of steel beams or other specialized materials.

Table 9.40.3.3.P.

Built-up Wood Beam Sizes for Farm Buildings of Low Human Occupancy—Continuous Loads⁽¹⁾

Forming Part of Article 9.40.3.3.

| Beam Span, m | Spruce-Pine-Fir, No. 1 and No. 2 (Dressed Lumber) | | | | | | |
|--------------|---|------|-------|-------|-------|-------|-------|
| | Total Load on Beam, kN/m | | | | | | |
| | 5.84 | 8.76 | 11.67 | 14.59 | 17.51 | 20.43 | 23.35 |
| 1.8 | A | A | B | D | G | J | L |
| 2.4 | A | C | E | J | L | — | — |
| 3.0 | D | H | J | L | — | — | — |
| 3.6 | H | K | — | — | — | — | — |
| 4.2 | K | — | — | — | — | — | — |
| 4.8 | L | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Legend - Beam Sizes

A = 3 – 38 mm x 184 mm
 B = 4 – 38 mm x 184 mm
 C = 3 – 38 mm x 235 mm
 D = 5 – 38 mm x 184 mm
 E = 3 – 38 mm x 286 mm
 F = 4 – 38 mm x 235 mm
 G = 6 – 38 mm x 184 mm
 H = 5 – 38 mm x 235 mm
 I = 4 – 38 mm x 286 mm
 J = 6 – 38 mm x 235 mm
 K = 5 – 38 mm x 286 mm
 L = 6 – 38 mm x 286 mm

Notes to Table 9.40.3.3.P.:

- (1) For use of floors that support hay, straw, grain or other continuous loads.
- (2) A *dead load* of 0.48 kPa is assumed for all beams.
- (3) Floor systems supporting heavy loads over larger spans will require use of steel beams or other specialized materials.

Table 9.40.3.3.Q.

Ungraded Lumber, Full-Dimension Roof Beam Sizes for Farm Buildings of Low Human Occupancy⁽¹⁾

Forming Part of Article 9.40.3.3.

| Beam Span, m | Total Load on Built-up Wood Beam, kN/m | | | | | | | |
|--------------|--|------|-------|-------|-------|-------|-------|-------|
| | 5.84 | 8.76 | 11.67 | 14.59 | 17.51 | 20.43 | 23.35 | 26.27 |
| 1.8 | A | A | B | C | D | F | G | H |
| 2.4 | B | D | E | H | I | J | — | — |
| 3.0 | D | G | I | — | — | — | — | — |
| 3.6 | G | J | — | — | — | — | — | — |
| 4.2 | J | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Legend - Built-up Wood Beam Sizes

A = 3 – 50.8 mm x 203.2 mm

B = 4 – 50.8 mm x 203.2 mm

C = 3 – 50.8 mm x 254.0 mm

D = 5 – 50.8 mm x 203.2 mm

E = 6 – 50.8 mm x 203.2 mm

F = 4 – 50.8 mm x 254.0 mm

G = 5 – 50.8 mm x 254.0 mm

H = 4 – 50.8 mm x 304.8 mm

I = 5 – 50.8 mm x 304.8 mm

J = 6 – 50.8 mm x 304.8 mm

Notes to Table 9.40.3.3.Q.:

(1) *Ungraded lumber*, full-dimension, built-up wood beam.(2) A *dead load* of 0.584 kN/m is assumed.

(3) Beams are sized for roof load only.

Table 9.40.3.3.R.

Ungraded Lumber, Full-Dimension Roof Beam Sizes for Farm Buildings of Low Human Occupancy⁽¹⁾

Forming Part of Article 9.40.3.3.

| Beam Span, m | Total Load on Built-up Sawn Beam, kN/m | | | | | | | |
|--------------|--|------|-------|-------|-------|-------|-------|-------|
| | 5.84 | 8.76 | 11.67 | 14.59 | 17.51 | 20.43 | 23.35 | 26.27 |
| 1.8 | A | A | B | C | D | E | F | G |
| 2.4 | A | B | D | D | F | G | — | — |
| 3.0 | C | D | E | F | — | — | — | — |
| 3.6 | D | F | G | — | — | — | — | — |
| 4.2 | E | G | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Legend - Sawn Beam Sizes

A = 127.0 mm x 203.2 mm

B = 127.0 mm x 254.0 mm

C = 152.4 mm x 254.0 mm

D = 203.2 mm x 254.0 mm

E = 203.2 mm x 304.8 mm

F = 254.0 mm x 304.8 mm

G = 254.0 mm x 355.6 mm

Notes to Table 9.40.3.3.R.:

(1) *Ungraded lumber*, full-dimension, sawn wood beam.(2) A *dead load* of 0.584 kN/m is assumed.

(3) Beams are sized for roof load only.

Table 9.40.3.3.S.

Roof Plate-Beams and Lintels for Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.3.

| Building Width, m | Spruce-Pine-Fir, No. 1 and No. 2 (Dressed Lumber) | | | | | | | | |
|-------------------|---|------|------|------|------|------|------|------|------|
| | Total Roof Load, kPa, with Post Spacing at 2.4 m | | | | | | | | |
| | A | B | C | D | E | F | G | H | I |
| 7.3 | 1.67 | 2.77 | 3.68 | 2.49 | 4.11 | 5.50 | 3.35 | 5.55 | 7.42 |
| 8.5 | 1.43 | 2.34 | 3.16 | 2.15 | 3.54 | 4.74 | 2.87 | 4.74 | 6.36 |
| 9.7 | 1.24 | 2.05 | 2.77 | 1.86 | 3.11 | 4.11 | 2.53 | 4.16 | 5.55 |
| 10.9 | — | 1.81 | 2.44 | 1.67 | 2.72 | 3.68 | 2.25 | 3.68 | 4.93 |
| 12.1 | — | 1.62 | 2.20 | 1.48 | 2.49 | 3.30 | 2.01 | 3.30 | 4.45 |
| 13.4 | — | 1.48 | 2.01 | 1.34 | 2.25 | 3.01 | 1.81 | 3.01 | 4.02 |
| 14.6 | — | 1.38 | 1.81 | 1.24 | 2.05 | 2.72 | 1.67 | 2.77 | 3.68 |
| 15.8 | — | 1.24 | 1.67 | — | 1.91 | 2.53 | 1.53 | 2.53 | 3.40 |
| 17.0 | — | — | 1.58 | — | 1.77 | 2.34 | 1.43 | 2.39 | 3.16 |
| 18.2 | — | — | 1.48 | — | 1.62 | 2.20 | 1.34 | 2.20 | 2.96 |
| Building Width, m | Total Roof Load, kPa, with Post Spacing at 3.0 m | | | | | | | | |
| | A | B | C | D | E | F | G | H | I |
| | A | B | C | D | E | F | G | H | I |
| 7.3 | — | 1.72 | 2.29 | 1.53 | 2.58 | 3.44 | 2.10 | 3.44 | 4.64 |
| 8.5 | — | 1.48 | 1.96 | 1.34 | 2.20 | 2.96 | 1.77 | 2.96 | 3.97 |
| 9.7 | — | 1.29 | 1.72 | — | 1.91 | 2.58 | 1.58 | 2.58 | 3.44 |
| 10.9 | — | — | 1.53 | — | 1.72 | 2.29 | 1.38 | 2.29 | 3.06 |
| 12.1 | — | — | 1.38 | — | 1.53 | 2.05 | 1.24 | 2.05 | 2.77 |
| 13.4 | — | — | 1.24 | — | 1.38 | 1.86 | — | 1.86 | 2.53 |
| 14.6 | — | — | — | — | 1.29 | 1.72 | — | 1.72 | 2.29 |
| 15.8 | — | — | — | — | — | 1.58 | — | 1.58 | 2.10 |
| 17.0 | — | — | — | — | — | 1.48 | — | 1.48 | 1.96 |
| 18.2 | — | — | — | — | — | 1.38 | — | 1.38 | 1.81 |
| Building Width, m | Total Roof Load, kPa, with Post Spacing at 3.6 m | | | | | | | | |
| | A | B | C | D | E | F | G | H | I |
| | A | B | C | D | E | F | G | H | I |
| 7.3 | — | 1.38 | 1.81 | 1.24 | 2.05 | 2.72 | 1.67 | 2.77 | 3.68 |
| 8.5 | — | — | 1.58 | — | 1.77 | 2.34 | 1.43 | 2.39 | 3.16 |
| 9.7 | — | — | 1.38 | — | 1.53 | 2.05 | 1.24 | 2.05 | 2.77 |
| 10.9 | — | — | 1.19 | — | 1.38 | 1.81 | — | 1.81 | 2.44 |
| 12.1 | — | — | — | — | 1.24 | 1.62 | — | 1.67 | 2.20 |
| 13.4 | — | — | — | — | — | 1.48 | — | 1.48 | 2.01 |
| 14.6 | — | — | — | — | — | 1.38 | — | 1.38 | 1.81 |
| 15.8 | — | — | — | — | — | 1.24 | — | 1.29 | 1.67 |
| 17.0 | — | — | — | — | — | — | — | — | 1.58 |
| 18.2 | — | — | — | — | — | — | — | — | 1.48 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Legend - Roof Plate-Beam and Lintel Sizes

A = 2 - 38 mm x 184 mm
 B = 3 - 38 mm x 184 mm
 C = 4 - 38 mm x 184 mm
 D = 2 - 38 mm x 235 mm
 E = 3 - 38 mm x 235 mm
 F = 4 - 38 mm x 235 mm
 G = 2 - 38 mm x 286 mm
 H = 3 - 38 mm x 286 mm
 I = 4 - 38 mm x 286 mm

Notes to Table 9.40.3.3.S.:

- (1) Trusses are at 1.2 m on centres.
- (2) Plate-beam/lintel loading can be very significant.
- (3) Specifications for anchorage at supporting posts must be specified by a competent designer.

Table 9.40.3.3.T.

Roof Plate-Beams and Lintels for Farm Buildings of Low Human Occupancy

Forming Part of Article 9.40.3.3.

| Building Width, m | Ungraded Lumber-Full Dimension | | | | | | | | |
|-------------------|--|------|------|------|------|------|------|------|------|
| | Total Roof Load, kPa, with Post Spacing at 2.4 m | | | | | | | | |
| | A | B | C | D | E | F | G | H | I |
| 7.3 | — | 1.72 | 2.29 | 1.48 | 2.44 | 3.25 | 1.91 | 3.20 | 4.26 |
| 8.5 | — | 1.43 | 1.96 | 1.24 | 2.10 | 2.77 | 1.67 | 2.72 | 3.68 |
| 9.7 | — | 1.29 | 1.72 | — | 1.81 | 2.44 | 1.43 | 2.39 | 3.20 |
| 10.9 | — | — | 1.53 | — | 1.62 | 2.15 | 1.29 | 2.15 | 2.87 |
| 12.1 | — | — | 1.34 | — | 1.48 | 1.96 | — | 1.91 | 2.58 |
| 13.4 | — | — | 1.24 | — | 1.34 | 1.77 | — | 1.72 | 2.34 |
| 14.6 | — | — | — | — | 1.19 | 1.62 | — | 1.58 | 2.15 |
| 15.8 | — | — | — | — | — | 1.48 | — | 1.48 | 1.96 |
| 17.0 | — | — | — | — | — | 1.38 | — | 1.38 | 1.81 |
| 18.2 | — | — | — | — | — | 1.29 | — | 1.29 | 1.72 |
| Building Width, m | Total Roof Load, kPa, with Post Spacing at 3.0 m | | | | | | | | |
| | A | B | C | D | E | F | G | H | I |
| 7.3 | — | — | 1.43 | — | 1.53 | 2.05 | 1.19 | 2.01 | 2.68 |
| 8.5 | — | — | 1.19 | — | 1.29 | 1.72 | — | 1.72 | 2.29 |
| 9.7 | — | — | — | — | — | 1.53 | — | 1.48 | 2.01 |
| 10.9 | — | — | — | — | — | 1.34 | — | 1.34 | 1.77 |
| 12.1 | — | — | — | — | — | 1.19 | — | — | 1.58 |
| 13.4 | — | — | — | — | — | — | — | — | 1.43 |
| 14.6 | — | — | — | — | — | — | — | — | 1.34 |
| 15.8 | — | — | — | — | — | — | — | — | 1.24 |
| 17.0 | — | — | — | — | — | — | — | — | — |
| 18.2 | — | — | — | — | — | — | — | — | — |
| Building Width, m | Total Roof Load, kPa, with Post Spacing at 3.6 m | | | | | | | | |
| | A | B | C | D | E | F | G | H | I |
| 7.3 | — | — | — | — | 1.19 | 1.62 | — | 1.58 | 2.15 |
| 8.5 | — | — | — | — | — | 1.38 | — | 1.38 | 1.81 |
| 9.7 | — | — | — | — | — | 1.19 | — | — | 1.58 |
| 10.9 | — | — | — | — | — | — | — | — | 1.43 |
| 12.1 | — | — | — | — | — | — | — | — | 1.29 |
| 13.4 | — | — | — | — | — | — | — | — | — |
| 14.6 | — | — | — | — | — | — | — | — | — |
| 15.8 | — | — | — | — | — | — | — | — | — |
| 17.0 | — | — | — | — | — | — | — | — | — |
| 18.2 | — | — | — | — | — | — | — | — | — |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Legend - Roof Plate-Beam and Lintel Sizes:

A = 2 – 50.8 mm x 203.2 mm
 B = 3 – 50.8 mm x 203.2 mm
 C = 4 – 50.8 mm x 203.2 mm
 D = 2 – 50.8 mm x 254.0 mm
 E = 3 – 50.8 mm x 254.0 mm
 F = 4 – 50.8 mm x 254.0 mm
 G = 2 – 50.8 mm x 304.8 mm
 H = 3 – 50.8 mm x 304.8 mm
 I = 4 – 50.8 mm x 304.8 mm

Notes to Table 9.40.3.3.T.:

- (1) Trusses are at 1.2 m on centres.
- (2) Plate-beam/lintel loading can be very significant.
- (3) Specifications for anchorage at supporting posts must be specified by a competent designer.

Table 9.40.3.4.U.

Stud Sizes for Farm Buildings of Low Human Occupancy (Single Storey)

Forming Part of Article 9.40.3.4.

| Sidewall Height, m | Total Roof Load, kPa | Spruce-Pine-Fir, No. 1 and No. 2 (Dressed Lumber) | | | | | | | | | | | | | | | |
|--------------------|----------------------|---|------|------|------|-------------------|------|------|------|-----------------------------------|------|------|------|-------------------|------|------|------|
| | | Wind Load: $q_{10} \leq 0.30$ kPa | | | | | | | | Wind Load: $q_{10} \leq 0.45$ kPa | | | | | | | |
| | | 400 mm o.c. | | | | 600 mm o.c. | | | | 400 mm o.c. | | | | 600 mm o.c. | | | |
| | | Building Width, m | | | | Building Width, m | | | | Building Width, m | | | | Building Width, m | | | |
| | | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 |
| 3.0 | 1.9 | A | A | A | A | A | A | A | B | A | A | A | A | A | A | A | B |
| | 2.4 | A | A | A | A | A | A | B | B | A | A | A | A | A | A | B | B |
| | 2.8 | A | A | A | A | A | A | B | B | A | A | A | A | A | B | B | B |
| | 3.3 | A | A | A | B | A | B | B | B | A | A | A | B | A | B | B | B |
| 3.6 | 1.9 | A | A | A | B | A | B | B | B | A | A | A | B | B | B | B | B |
| | 2.4 | A | A | B | B | B | B | B | B | A | A | B | B | B | B | B | B |
| | 2.8 | A | B | B | B | B | B | B | B | A | B | B | B | B | B | B | B |
| | 3.3 | A | B | B | B | B | B | B | B | A | B | B | B | B | B | B | B |
| 4.2 | 1.9 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| | 2.4 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| | 2.8 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| | 3.3 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| 4.8 | 1.9 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| | 2.4 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | C |
| | 2.8 | B | B | B | B | B | B | B | C | B | B | B | B | B | B | C | C |
| | 3.3 | B | B | B | B | B | B | C | C | B | B | B | B | B | B | C | C |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |

Legend - Stud Sizes

A = 38 mm x 89 mm

B = 38 mm x 140 mm

C = 38 mm x 184 mm or double 38 mm x 140 mm under the trusses, with an intermediate 38 mm x 140 mm stud at 600 mm.

Notes to Table 9.40.3.4.U.:

- (1) Designs are based on load combinations of total roof load and wind load acting at the same time on a closed building.
- (2) It is assumed that the double top plate is rigid enough to cause load sharing amongst all studs regardless of the spacing 400 mm or 600 mm.
- (3) Solid bridging shall be used on all walls as follows:
 ≤ 3.0 m: 1 row at mid-height.
3.6 m - 4.2 m: 2 rows at third-points.
4.8 m: 3 rows at quarter-points.
- (4) Wind bracing shall not impose additional bending forces onto the stud.

Table 9.40.3.4.V.

**Stud Sizes for Farm Buildings of Low Human Occupancy
(With Second Storey Loading)**

Forming Part of Article 9.40.3.4.

| Sidewall Height, m | Total Roof Load, kPa | Spruce-Pine-Fir, No. 1 and No. 2 (Dressed Lumber) | | | | | | | | | | | | | | | | Second Storey Plate, kN/m |
|--------------------|----------------------|---|------|------|------|-------------------|------|------|------|---------------------------|------|------|------|-------------------|------|------|------|---------------------------|
| | | Wind Load: q10 ≤ 0.30 kPa | | | | | | | | Wind Load: q10 ≤ 0.45 kPa | | | | | | | | |
| | | 400 mm o.c. | | | | 600 mm o.c. | | | | 400 mm o.c. | | | | 600 mm o.c. | | | | |
| | | Building Width, m | | | | Building Width, m | | | | Building Width, m | | | | Building Width, m | | | | |
| | | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 | |
| 3.0 | 1.9 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | 14.6 |
| | 2.4 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | |
| | 2.8 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | |
| | 3.3 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | |
| 3.6 | 1.9 | B | B | B | B | B | B | B | C | B | B | B | B | B | B | C | C | 14.6 |
| | 2.4 | B | B | B | B | B | B | C | C | B | B | B | B | B | C | C | C | |
| | 2.8 | B | B | B | B | B | B | C | C | B | B | B | B | B | C | C | C | |
| | 3.3 | B | B | B | B | B | C | C | C | B | B | B | B | C | C | C | C | |
| 3.0 | 1.9 | A | A | B | B | B | B | B | B | B | B | B | B | B | B | B | B | 7.3 |
| | 2.4 | A | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | |
| | 2.8 | A | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | |
| | 3.3 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | |
| 3.6 | 1.9 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | 7.3 |
| | 2.4 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | |
| | 2.8 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | |
| | 3.3 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | C | |
| 3.0 | 1.9 | A | A | A | A | A | B | B | B | A | A | A | A | B | B | B | B | 3.6 |
| | 2.4 | A | A | A | B | B | B | B | B | A | A | A | A | B | B | B | B | |
| | 2.8 | A | A | B | B | B | B | B | B | A | A | B | B | B | B | B | B | |
| | 3.3 | A | A | B | B | B | B | B | B | A | B | B | B | B | B | B | B | |
| 3.6 | 1.9 | A | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | 3.6 |
| | 2.4 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | |
| | 2.8 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | |
| | 3.3 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |

Legend - Stud Sizes

A = 38 mm x 89 mm

B = 38 mm x 140 mm

C = 38 mm x 184 mm or double 38 mm x 140 mm

Notes to Table 9.40.3.4.V.:

- (1) Design is based on load combinations of total roof load, wind load and stored product acting at the same time on a closed building.
- (2) All notes following Table 9.40.3.4.U. apply, with the following conditions/exceptions:
 14.6 kN/m loading: Full 4.8 m sidewall hay/straw storage space above. It is supported by beams spaced at 3.6 m o.c. The outside plate carries a 1.8 m floor width. If the loading is greater, refer to a qualified person for design.
 7.3 kN/m loading: Full 2.4 m sidewall hay/straw storage space above or a gambrel roof structure >9.14 m in total width. Floor support beams as above.
 3.6 kN/m loading: Small gambrel roof structure or storage space for light storage. Floor support beams as above.

Table 9.40.3.4.W.

Stud Sizes for Farm Buildings of Low Human Occupancy (Single Storey)

Forming Part of Article 9.40.3.4.

| Sidewall Height, m | Total Roof Load, kPa | Ungraded Lumber, Full-Dimensioned | | | | | | | | | | | | | | | |
|--------------------|----------------------|-----------------------------------|------|------|------|-------------------|------|------|------|-----------------------------------|------|------|------|-------------------|------|------|------|
| | | Wind Load: $q_{10} \leq 0.30$ kPa | | | | | | | | Wind Load: $q_{10} \leq 0.45$ kPa | | | | | | | |
| | | 400 mm o.c. | | | | 600 mm o.c. | | | | 400 mm o.c. | | | | 600 mm o.c. | | | |
| | | Building Width, m | | | | Building Width, m | | | | Building Width, m | | | | Building Width, m | | | |
| | | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 | 9.14 | 12.2 | 15.2 | 18.3 |
| 3.0 | 1.9 | A | A | A | A | A | A | A | B | A | A | A | A | A | A | B | B |
| | 2.4 | A | A | A | A | A | A | A | B | A | A | A | A | A | A | B | B |
| | 2.8 | A | A | A | A | A | B | B | B | A | A | A | B | B | B | B | B |
| | 3.3 | A | A | A | B | A | B | B | B | A | A | A | B | A | B | B | B |
| 3.6 | 1.9 | A | A | A | B | A | B | B | B | A | A | A | B | B | B | B | B |
| | 2.4 | A | A | B | B | B | B | B | B | A | A | B | B | B | B | B | B |
| | 2.8 | A | B | B | B | B | B | B | B | A | B | B | B | B | B | B | B |
| | 3.3 | A | B | B | B | B | B | B | B | B | B | B | B | B | B | B | C |
| 4.2 | 1.9 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| | 2.4 | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | C |
| | 2.8 | B | B | B | B | B | B | B | C | B | B | B | B | B | B | C | C |
| | 3.3 | B | B | B | B | B | B | C | C | B | B | B | B | B | C | C | C |
| 4.8 | 1.9 | B | B | B | B | B | B | B | C | B | B | B | B | B | B | C | C |
| | 2.4 | B | B | B | B | B | B | C | C | B | B | B | B | B | C | C | C |
| | 2.8 | B | B | B | B | B | B | C | C | B | B | B | C | C | C | C | C |
| | 3.3 | B | B | B | B | B | C | C | C | B | B | B | C | C | C | C | C |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |

Legend - Stud Sizes

A = 50.8 mm x 101.6 mm

B = 50.8 mm x 152.4 mm

C = 50.8 mm x 203.2 mm or double 50.8 mm x 152.4 mm under the trusses, with an intermediate 50.8 mm x 152.4 mm stud at 600 mm

Notes to Table 9.40.3.4.W.:

- (1) Designs are based on load combinations of total roof load and wind load acting at the same time on a closed building.
- (2) It is assumed that the double top plate is rigid enough to cause load sharing amongst all studs regardless of the spacing 400 mm or 600 mm.
- (3) Solid bridging shall be used on all walls as follows:
 - ≤ 3.0 m: 1 row at mid-height.
 - 3.6 m to 4.2 m: 2 rows at third-points.
 - 4.8 m: 3 rows at quarter-points.
- (4) Wind bracing shall not impose additional bending forces onto the stud.

Section 9.41. Additional Requirements for Change of Use

9.41.2. Additional Construction

9.41.1. Scope

9.41.2.1. Change of Use and Compensating Construction

9.41.1.1. Application

(1) This Section applies where proposed *construction* in respect of an existing *building* will result in the following changes of use of all or part of the *building*

- (a) a change of the *major occupancy* of all or part of a *building* that is designated with a "Y" in Table 2.4.1.1.,
- (b) a *suite* of a Group C *major occupancy* is converted into more than one *suite* of Group C *major occupancy*,
- (c) a *farm building* or part of a *farm building* is changed to a *major occupancy*, or
- (d) the use of a *building* or part of a *building* is changed and the previous *major occupancy* of the *building* or part of the *building* cannot be determined.

(2) The changes in use described in Clauses (1)(b) to (d) shall also be deemed to be a change of *major occupancy* for the purposes of this Section and Sentence 11.4.2.1.(1).

(3) The requirements of this Section are in addition to the requirements of other Parts of the Code as they apply to the proposed *construction*.

(1) Where proposed *construction* will result in a change of use described in Clauses 9.41.1.1.(1)(a) to (d), additional *construction* shall be required in order that the *building* or part of a *building* subject to the change of use conforms to the requirements of Section 9.5. and 9.7., Subsection 9.10.16., Sections 9.31. and 9.32., and Subsections 9.34.1., 9.34.2. and 9.34.3. as they apply to the new *major occupancy* that the *building* or part of a *building* is to support.

(2) For the purposes of this Article, existing *buildings* shall be classified as to their *construction* and *occupancy* as provided for in Sentence 11.2.1.1.(1).

9.41.2.2. Performance Level Evaluation and Compensating Construction

(1) The *performance level* of a *building* after *construction* shall not be less than the *performance level* of the *building* prior to *construction*.

(2) For the purposes of Sentence (1), reduction of *performance level* shall be determined in accordance with Articles 11.4.2.1. and 11.4.2.3.

(3) Where the proposed *construction* would reduce the *performance level* of an existing *building*, compensating *construction* shall be required in conformance with Articles 11.4.3.1., 11.4.3.2. and 11.4.3.4.

(4) Section 11.5. applies in respect of the requirements of Sentences 11.4.3.4.(1), (3) and (4).

Table A-1

Maximum Spans for Floor Joists - General Cases⁽¹⁾

Forming Part of Sentence 9.23.4.2.(1)

| Commercial Designation | Grade | Joist Size, mm | Maximum Span, m | | | | | | | | |
|--|-------------------|----------------|-------------------|------|------|-------------------|------|------|-----------------------------|------|------|
| | | | With Strapping | | | With Bridging | | | With Strapping and Bridging | | |
| | | | Joist Spacing, mm | | | Joist Spacing, mm | | | Joist Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 | 300 | 400 | 600 |
| Douglas Fir - Larch (includes Douglas Fir and Western Larch) | Select Structural | 38 x 89 | 2.13 | 1.97 | 1.73 | 2.19 | 1.99 | 1.73 | 2.19 | 1.99 | 1.73 |
| | | 38 x 140 | 3.23 | 3.07 | 2.73 | 3.44 | 3.12 | 2.73 | 3.44 | 3.12 | 2.73 |
| | | 38 x 184 | 3.88 | 3.69 | 3.51 | 4.18 | 3.92 | 3.59 | 4.37 | 4.07 | 3.59 |
| | | 38 x 235 | 4.57 | 4.34 | 4.13 | 4.86 | 4.57 | 4.29 | 5.05 | 4.70 | 4.39 |
| | No. 1 and No. 2 | 38 x 286 | 5.21 | 4.95 | 4.71 | 5.49 | 5.16 | 4.85 | 5.66 | 5.28 | 4.92 |
| | | 38 x 89 | 2.00 | 1.85 | 1.66 | 2.09 | 1.90 | 1.66 | 2.09 | 1.90 | 1.66 |
| | | 38 x 140 | 3.09 | 2.91 | 2.62 | 3.29 | 2.99 | 2.62 | 3.29 | 2.99 | 2.62 |
| | | 38 x 184 | 3.71 | 3.53 | 3.36 | 4.00 | 3.76 | 3.44 | 4.19 | 3.90 | 3.44 |
| | | 38 x 235 | 4.38 | 4.16 | 3.96 | 4.66 | 4.38 | 4.11 | 4.84 | 4.51 | 4.20 |
| | | 38 x 286 | 4.99 | 4.75 | 4.52 | 5.26 | 4.94 | 4.65 | 5.43 | 5.06 | 4.72 |
| | No. 3 | 38 x 89 | 1.90 | 1.69 | 1.38 | 1.95 | 1.69 | 1.38 | 1.95 | 1.69 | 1.38 |
| | | 38 x 140 | 2.78 | 2.41 | 1.97 | 2.78 | 2.41 | 1.97 | 2.78 | 2.41 | 1.97 |
| | | 38 x 184 | 3.38 | 2.93 | 2.39 | 3.38 | 2.93 | 2.39 | 3.38 | 2.93 | 2.39 |
| | | 38 x 235 | 4.14 | 3.58 | 3.93 | 4.14 | 3.58 | 2.93 | 4.14 | 3.58 | 2.93 |
| | | 38 x 286 | 4.80 | 4.16 | 3.39 | 4.80 | 4.16 | 3.39 | 4.80 | 4.16 | 3.39 |
| | Construction | 38 x 89 | 1.90 | 1.77 | 1.61 | 2.03 | 1.84 | 1.61 | 2.03 | 1.84 | 1.61 |
| | Standard | 38 x 89 | 1.81 | 1.63 | 1.33 | 1.88 | 1.63 | 1.33 | 1.88 | 1.63 | 1.33 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| Commercial Designation | Grade | Joist Size, mm | Maximum Span, m | | | | | | | | |
|---|-------------------|----------------|-------------------|------|------|-------------------|------|------|-----------------------------|------|------|
| | | | With Strapping | | | With Bridging | | | With Strapping and Bridging | | |
| | | | Joist Spacing, mm | | | Joist Spacing, mm | | | Joist Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 | 300 | 400 | 600 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | Select Structural | 38 x 89 | 2.08 | 1.93 | 1.71 | 2.16 | 1.96 | 1.71 | 2.16 | 1.96 | 1.71 |
| | | 38 x 140 | 3.18 | 3.03 | 2.69 | 3.39 | 3.08 | 2.69 | 3.39 | 3.08 | 2.69 |
| | | 38 x 184 | 3.82 | 3.64 | 3.46 | 4.12 | 3.87 | 3.54 | 4.31 | 4.02 | 3.54 |
| | | 38 x 235 | 4.50 | 4.28 | 4.08 | 4.80 | 4.51 | 4.23 | 4.98 | 4.64 | 4.33 |
| | | 38 x 286 | 5.14 | 4.89 | 4.65 | 5.42 | 5.09 | 4.78 | 5.59 | 5.21 | 4.86 |
| | No. 1 and No. 2 | 38 x 89 | 2.00 | 1.85 | 1.66 | 2.09 | 1.90 | 1.66 | 2.09 | 1.90 | 1.66 |
| | | 38 x 140 | 3.09 | 2.91 | 2.62 | 3.29 | 2.99 | 2.62 | 3.29 | 2.99 | 2.62 |
| | | 38 x 184 | 3.71 | 3.53 | 3.36 | 4.00 | 3.76 | 3.44 | 4.19 | 3.90 | 3.44 |
| | | 38 x 235 | 4.38 | 4.16 | 3.96 | 4.66 | 4.38 | 4.11 | 4.84 | 4.51 | 4.20 |
| | | 38 x 286 | 4.99 | 4.75 | 4.52 | 5.26 | 4.94 | 4.65 | 5.43 | 5.06 | 4.72 |
| | No. 3 | 38 x 89 | 1.90 | 1.77 | 1.61 | 2.03 | 1.84 | 1.61 | 2.03 | 1.84 | 1.61 |
| | | 38 x 140 | 2.99 | 2.78 | 2.43 | 3.19 | 2.90 | 2.43 | 3.19 | 2.90 | 2.43 |
| | | 38 x 184 | 3.60 | 3.42 | 2.95 | 3.88 | 3.61 | 2.95 | 4.06 | 3.61 | 2.95 |
| | | 38 x 235 | 4.24 | 4.03 | 3.61 | 4.51 | 4.24 | 3.61 | 4.68 | 4.37 | 3.61 |
| | | 38 x 286 | 4.84 | 4.60 | 4.19 | 5.10 | 4.79 | 4.19 | 5.26 | 4.90 | 4.19 |
| | Construction | 38 x 89 | 1.90 | 1.77 | 1.61 | 2.03 | 1.84 | 1.61 | 2.03 | 1.84 | 1.61 |
| | Standard | 38 x 89 | 1.81 | 1.68 | 1.39 | 1.96 | 1.71 | 1.39 | 1.96 | 1.71 | 1.39 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | Select Structural | 38 x 89 | 1.95 | 1.81 | 1.64 | 2.06 | 1.87 | 1.64 | 2.06 | 1.87 | 1.64 |
| | | 38 x 140 | 3.05 | 2.85 | 2.57 | 3.24 | 2.95 | 2.57 | 3.24 | 2.95 | 2.57 |
| | | 38 x 184 | 3.66 | 3.48 | 3.31 | 3.94 | 3.70 | 3.38 | 4.12 | 3.84 | 3.38 |
| | | 38 x 235 | 4.31 | 4.10 | 3.90 | 4.59 | 4.31 | 4.05 | 4.76 | 4.44 | 4.14 |
| | | 38 x 286 | 4.91 | 4.67 | 4.45 | 5.18 | 4.87 | 4.57 | 5.34 | 4.98 | 4.64 |
| | No. 1 and No. 2 | 38 x 89 | 1.86 | 1.72 | 1.58 | 1.99 | 1.81 | 1.58 | 1.99 | 1.81 | 1.58 |
| | | 38 x 140 | 2.92 | 2.71 | 2.49 | 3.14 | 2.85 | 2.49 | 3.14 | 2.85 | 2.49 |
| | | 38 x 184 | 3.54 | 3.36 | 3.20 | 3.81 | 3.58 | 3.27 | 3.99 | 3.72 | 3.27 |
| | | 38 x 235 | 4.17 | 3.96 | 3.77 | 4.44 | 4.17 | 3.92 | 4.60 | 4.29 | 4.00 |
| | | 38 x 286 | 4.75 | 4.52 | 4.30 | 5.01 | 4.71 | 4.42 | 5.17 | 4.82 | 4.49 |
| | No. 3 | 38 x 89 | 1.81 | 1.68 | 1.55 | 1.96 | 1.78 | 1.55 | 1.96 | 1.78 | 1.55 |
| | | 38 x 140 | 2.84 | 2.64 | 2.43 | 3.08 | 2.80 | 2.43 | 3.08 | 2.80 | 2.43 |
| | | 38 x 184 | 3.47 | 3.30 | 2.95 | 3.74 | 3.52 | 2.95 | 3.92 | 3.61 | 2.95 |
| | | 38 x 235 | 4.09 | 3.89 | 3.61 | 4.36 | 4.09 | 3.61 | 4.52 | 4.22 | 3.61 |
| | | 38 x 286 | 4.67 | 4.44 | 4.19 | 4.92 | 4.62 | 4.19 | 5.08 | 4.73 | 4.19 |
| | Construction | 38 x 89 | 1.81 | 1.68 | 1.55 | 1.96 | 1.78 | 1.55 | 1.96 | 1.78 | 1.55 |
| | Standard | 38 x 89 | 1.70 | 1.58 | 1.44 | 1.88 | 1.71 | 1.44 | 1.88 | 1.71 | 1.44 |
| Northern Species (includes any Canadian Species covered by the NLGA Standard Grading Rules) | Select Structural | 38 x 89 | 1.65 | 1.53 | 1.42 | 1.84 | 1.68 | 1.46 | 1.84 | 1.68 | 1.46 |
| | | 38 x 140 | 2.59 | 2.41 | 2.24 | 2.90 | 2.63 | 2.30 | 2.90 | 2.63 | 2.30 |
| | | 38 x 184 | 3.27 | 3.11 | 2.94 | 3.52 | 3.31 | 3.03 | 3.69 | 3.44 | 3.03 |
| | | 38 x 235 | 3.85 | 3.66 | 3.48 | 4.10 | 3.85 | 3.62 | 4.26 | 3.97 | 3.70 |
| | | 38 x 286 | 4.39 | 4.18 | 3.97 | 4.63 | 4.35 | 4.09 | 4.78 | 4.45 | 4.15 |
| | No. 1 and No. 2 | 38 x 89 | 1.59 | 1.48 | 1.37 | 1.80 | 1.64 | 1.43 | 1.80 | 1.64 | 1.43 |
| | | 38 x 140 | 2.51 | 2.33 | 2.16 | 2.83 | 2.57 | 2.25 | 2.83 | 2.57 | 2.25 |
| | | 38 x 184 | 3.19 | 3.04 | 2.84 | 3.44 | 3.23 | 2.96 | 3.60 | 3.36 | 2.96 |
| | | 38 x 235 | 3.76 | 3.58 | 3.41 | 4.01 | 3.77 | 3.54 | 4.16 | 3.88 | 3.62 |
| | | 38 x 286 | 4.29 | 4.08 | 3.88 | 4.53 | 4.25 | 4.00 | 4.67 | 4.35 | 4.06 |
| | No. 3 | 38 x 89 | 1.54 | 1.43 | 1.32 | 1.74 | 1.57 | 1.36 | 1.76 | 1.60 | 1.36 |
| | | 38 x 140 | 2.42 | 2.24 | 1.94 | 2.74 | 2.38 | 1.94 | 2.75 | 2.38 | 1.94 |
| | | 38 x 184 | 3.12 | 2.90 | 2.37 | 3.35 | 2.90 | 2.37 | 3.35 | 2.90 | 2.37 |
| | | 38 x 235 | 3.67 | 3.49 | 2.89 | 3.91 | 3.54 | 2.89 | 4.06 | 3.54 | 2.89 |
| | | 38 x 286 | 4.19 | 3.98 | 3.36 | 4.42 | 4.11 | 3.36 | 4.55 | 4.11 | 3.36 |
| | Construction | 38 x 89 | 1.54 | 1.43 | 1.32 | 1.74 | 1.57 | 1.40 | 1.76 | 1.60 | 1.40 |
| | Standard | 38 x 89 | 1.48 | 1.37 | 1.15 | 1.63 | 1.41 | 1.15 | 1.63 | 1.41 | 1.15 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

Note to Table A-1:

(1) Spans apply only where the floors serve residential areas as described in Table 4.1.6.3., or the uniformly distributed *live load* on the floor does not exceed that specified for residential areas as described in Table 4.1.6.3.

Table A-2

Maximum Spans for Floor Joists—Special Cases⁽¹⁾

Forming Part of Sentence 9.23.4.2.(1) and 9.23.4.4.(2)

| Commercial Designation | Grade | Joist Size, mm | Maximum Span, m | | | | | | | | |
|---|-------------------|----------------|---|------|------|-------------------|------|------|---|------|------|
| | | | Joists with Ceilings Attached to Wood Furring | | | | | | Joists with Concrete Topping | | |
| | | | Without Bridging | | | With Bridging | | | With or Without Bridging ⁽²⁾ | | |
| | | | Joist Spacing, mm | | | Joist Spacing, mm | | | Joist Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 | 300 | 400 | 600 |
| Douglas Fir - Larch (includes Douglas Fir and Western Larch) | Select Structural | 38 x 89 | 2.19 | 1.99 | 1.73 | 2.19 | 1.99 | 1.73 | 2.19 | 1.99 | 1.73 |
| | | 38 x 140 | 3.44 | 3.12 | 2.73 | 3.44 | 3.12 | 2.73 | 3.44 | 3.12 | 2.73 |
| | | 38 x 184 | 4.24 | 3.99 | 3.59 | 4.52 | 4.11 | 3.59 | 4.52 | 4.11 | 3.59 |
| | | 38 x 235 | 4.98 | 4.69 | 4.29 | 5.47 | 5.20 | 4.58 | 5.77 | 5.24 | 4.58 |
| | | 38 x 286 | 5.67 | 5.34 | 4.88 | 6.19 | 5.89 | 5.54 | 6.83 | 6.37 | 5.58 |
| | No. 1 and No. 2 | 38 x 89 | 2.09 | 1.90 | 1.66 | 2.09 | 1.90 | 1.66 | 2.09 | 1.90 | 1.66 |
| | | 38 x 140 | 3.29 | 2.99 | 2.62 | 3.29 | 2.99 | 2.62 | 3.29 | 2.99 | 2.55 |
| | | 38 x 184 | 4.06 | 3.83 | 3.44 | 4.33 | 3.93 | 3.44 | 4.33 | 3.81 | 3.11 |
| | | 38 x 235 | 4.78 | 4.50 | 4.11 | 5.24 | 4.98 | 4.31 | 5.37 | 4.65 | 3.80 |
| | | 38 x 286 | 5.44 | 5.12 | 4.68 | 5.93 | 5.64 | 5.00 | 6.24 | 5.40 | 4.41 |
| | No. 3 | 38 x 89 | 1.95 | 1.69 | 1.38 | 1.95 | 1.69 | 1.38 | 1.72 | 1.49 | 1.21 |
| | | 38 x 140 | 2.78 | 2.41 | 1.97 | 2.78 | 2.41 | 1.97 | 2.45 | 2.12 | 1.73 |
| | | 38 x 184 | 3.38 | 2.93 | 2.39 | 3.38 | 2.93 | 2.39 | 2.98 | 2.58 | 2.11 |
| | | 38 x 235 | 4.14 | 3.58 | 2.93 | 4.14 | 3.58 | 2.93 | 3.65 | 3.16 | 2.58 |
| | | 38 x 286 | 4.80 | 4.16 | 3.39 | 4.80 | 4.16 | 3.39 | 4.23 | 3.66 | 2.99 |
| | Construction | 38 x 89 | 2.03 | 1.84 | 1.61 | 2.03 | 1.84 | 1.61 | 2.03 | 1.84 | 1.61 |
| | Standard | 38 x 89 | 1.88 | 1.63 | 1.33 | 1.88 | 1.63 | 1.33 | 1.66 | 1.44 | 1.17 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | Select Structural | 38 x 89 | 2.16 | 1.96 | 1.71 | 2.16 | 1.96 | 1.71 | 2.16 | 1.96 | 1.71 |
| | | 38 x 140 | 3.39 | 3.08 | 2.69 | 3.39 | 3.08 | 2.69 | 3.39 | 3.08 | 2.69 |
| | | 38 x 184 | 4.18 | 3.94 | 3.54 | 4.46 | 4.05 | 3.54 | 4.46 | 4.05 | 3.54 |
| | | 38 x 235 | 4.92 | 4.63 | 4.23 | 5.39 | 5.13 | 4.52 | 5.69 | 5.17 | 4.52 |
| | | 38 x 286 | 5.60 | 5.27 | 4.82 | 6.10 | 5.81 | 5.47 | 6.74 | 6.28 | 5.50 |
| | No. 1 and No. 2 | 38 x 89 | 2.09 | 1.90 | 1.66 | 2.09 | 1.90 | 1.66 | 2.09 | 1.90 | 1.66 |
| | | 38 x 140 | 3.29 | 2.99 | 2.62 | 3.29 | 2.99 | 2.62 | 3.29 | 2.99 | 2.62 |
| | | 38 x 184 | 4.06 | 3.83 | 3.44 | 4.33 | 3.93 | 3.44 | 4.33 | 3.93 | 3.26 |
| | | 38 x 235 | 4.78 | 4.50 | 4.11 | 5.24 | 4.98 | 4.39 | 5.53 | 4.88 | 3.99 |
| | | 38 x 286 | 5.44 | 5.12 | 4.68 | 5.93 | 5.64 | 5.25 | 6.54 | 5.66 | 4.63 |
| | No. 3 | 38 x 89 | 2.03 | 1.84 | 1.61 | 2.03 | 1.84 | 1.61 | 2.03 | 1.83 | 1.50 |
| | | 38 x 140 | 3.19 | 2.90 | 2.43 | 3.19 | 2.90 | 2.43 | 3.02 | 2.62 | 2.14 |
| | | 38 x 184 | 3.94 | 3.61 | 2.95 | 4.17 | 3.61 | 2.95 | 3.68 | 3.18 | 2.60 |
| | | 38 x 235 | 4.63 | 4.36 | 3.61 | 5.08 | 4.42 | 3.61 | 4.50 | 3.89 | 3.18 |
| | | 38 x 286 | 5.27 | 4.96 | 4.19 | 5.74 | 5.13 | 4.19 | 5.22 | 4.52 | 3.69 |
| | Construction | 38 x 89 | 2.03 | 1.84 | 1.61 | 2.03 | 1.84 | 1.61 | 2.03 | 1.84 | 1.61 |
| | Standard | 38 x 89 | 1.96 | 1.71 | 1.39 | 1.96 | 1.71 | 1.39 | 1.74 | 1.50 | 1.23 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| Commercial Designation | Grade | Joist Size, mm | Maximum Span, m | | | | | | | | |
|--|-------------------|----------------|---|------|------|-------------------|------|------|---|------|------|
| | | | Joists with Ceilings Attached to Wood Furring | | | | | | Joists with Concrete Topping | | |
| | | | Without Bridging | | | With Bridging | | | With or Without Bridging ⁽²⁾ | | |
| | | | Joist Spacing, mm | | | Joist Spacing, mm | | | Joist Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 | 300 | 400 | 600 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | Select Structural | 38 x 89 | 2.06 | 1.87 | 1.64 | 2.06 | 1.87 | 1.64 | 2.06 | 1.87 | 1.64 |
| | | 38 x 140 | 3.24 | 2.95 | 2.57 | 3.24 | 2.95 | 2.57 | 3.24 | 2.95 | 2.57 |
| | | 38 x 184 | 4.00 | 3.77 | 3.38 | 4.26 | 3.87 | 3.38 | 4.26 | 3.87 | 3.38 |
| | | 38 x 235 | 4.70 | 4.43 | 4.05 | 5.16 | 4.91 | 4.32 | 5.45 | 4.95 | 4.32 |
| | | 38 x 286 | 5.35 | 5.04 | 4.61 | 5.84 | 5.55 | 5.23 | 6.45 | 6.01 | 5.26 |
| | No. 1 and No. 2 | 38 x 89 | 1.99 | 1.81 | 1.58 | 1.99 | 1.81 | 1.58 | 1.99 | 1.81 | 1.58 |
| | | 38 x 140 | 3.14 | 2.85 | 2.49 | 3.14 | 2.85 | 2.49 | 3.14 | 2.85 | 2.49 |
| | | 38 x 184 | 3.87 | 3.64 | 3.27 | 4.12 | 3.75 | 3.27 | 4.12 | 3.75 | 3.27 |
| | | 38 x 235 | 4.55 | 4.28 | 3.91 | 4.99 | 4.75 | 4.18 | 5.27 | 4.79 | 4.13 |
| | | 38 x 286 | 5.18 | 4.88 | 4.46 | 5.65 | 5.37 | 5.06 | 6.23 | 5.81 | 4.79 |
| | No. 3 | 38 x 89 | 1.96 | 1.78 | 1.55 | 1.96 | 1.78 | 1.55 | 1.96 | 1.78 | 1.50 |
| | | 38 x 140 | 3.08 | 2.80 | 2.43 | 3.08 | 2.80 | 2.43 | 3.02 | 2.62 | 2.14 |
| | | 38 x 184 | 3.80 | 3.58 | 2.95 | 4.05 | 3.61 | 2.95 | 3.68 | 3.18 | 2.60 |
| | | 38 x 235 | 4.47 | 4.21 | 3.61 | 4.90 | 4.42 | 3.61 | 4.50 | 3.89 | 3.18 |
| | | 38 x 286 | 5.09 | 4.79 | 4.19 | 5.55 | 5.13 | 4.19 | 5.22 | 4.52 | 3.69 |
| | Construction | 38 x 89 | 1.96 | 1.78 | 1.55 | 1.96 | 1.78 | 1.55 | 1.96 | 1.78 | 1.55 |
| | Standard | 38 x 89 | 1.88 | 1.71 | 1.44 | 1.88 | 1.71 | 1.44 | 1.80 | 1.56 | 1.27 |
| Northern Species (includes any Canadian Species covered by the NLGA Standard Grading Rules) | Select Structural | 38 x 89 | 1.84 | 1.68 | 1.46 | 1.84 | 1.68 | 1.46 | 1.84 | 1.68 | 1.46 |
| | | 38 x 140 | 2.90 | 2.63 | 2.30 | 2.90 | 2.63 | 2.30 | 2.90 | 2.63 | 2.30 |
| | | 38 x 184 | 3.58 | 3.37 | 3.03 | 3.81 | 3.46 | 3.03 | 3.81 | 3.46 | 3.03 |
| | | 38 x 235 | 4.20 | 3.96 | 3.62 | 4.61 | 4.39 | 3.86 | 4.87 | 4.42 | 3.86 |
| | | 38 x 286 | 4.79 | 4.51 | 4.12 | 5.22 | 4.96 | 4.68 | 5.76 | 5.37 | 4.54 |
| | No. 1 and No. 2 | 38 x 89 | 1.80 | 1.64 | 1.43 | 1.80 | 1.64 | 1.43 | 1.80 | 1.64 | 1.43 |
| | | 38 x 140 | 2.83 | 2.57 | 2.25 | 2.83 | 2.57 | 2.25 | 2.83 | 2.57 | 2.23 |
| | | 38 x 184 | 3.50 | 3.29 | 2.96 | 3.72 | 3.38 | 2.96 | 3.72 | 3.32 | 2.71 |
| | | 38 x 235 | 4.11 | 3.87 | 3.54 | 4.51 | 4.29 | 3.76 | 4.69 | 4.06 | 3.31 |
| | | 38 x 286 | 4.68 | 4.40 | 4.03 | 5.10 | 4.85 | 4.36 | 5.44 | 4.71 | 3.84 |
| | No. 3 | 38 x 89 | 1.76 | 1.60 | 1.36 | 1.76 | 1.60 | 1.36 | 1.70 | 1.47 | 1.20 |
| | | 38 x 140 | 2.75 | 2.38 | 1.94 | 2.75 | 2.38 | 1.94 | 2.42 | 2.10 | 1.71 |
| | | 38 x 184 | 3.35 | 2.90 | 2.37 | 3.35 | 2.90 | 2.37 | 2.95 | 2.55 | 2.08 |
| | | 38 x 235 | 4.01 | 3.54 | 2.89 | 4.09 | 3.54 | 2.89 | 3.61 | 3.12 | 2.55 |
| | | 38 x 286 | 4.56 | 4.11 | 3.36 | 4.75 | 4.11 | 3.36 | 4.18 | 3.62 | 2.96 |
| | Construction | 38 x 89 | 1.76 | 1.60 | 1.40 | 1.76 | 1.60 | 1.40 | 1.76 | 1.60 | 1.37 |
| | Standard | 38 x 89 | 1.63 | 1.41 | 1.15 | 1.63 | 1.41 | 1.15 | 1.44 | 1.25 | 1.02 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

Notes to Table A-2:

(1) Spans apply only where the floors serve residential areas as described in Table 4.1.6.3., or the uniformly distributed *live load* on the floor does not exceed that specified for residential areas as described in Table 4.1.6.3.

(2) No bridging is assumed for spans for floor joists with concrete topping.

Table A-3

Maximum Spans for Ceiling Joists - Attic not Accessible by a Stairway

Forming Part of Sentence 9.23.4.2.(1)

| Commercial Designation | Grade | Joist Size, mm | Maximum Span, m | | |
|---|-------------------|----------------|-------------------|------|------|
| | | | Joist Spacing, mm | | |
| | | | 300 | 400 | 600 |
| Douglas Fir - Larch (includes Douglas Fir and Western Larch) | Select Structural | 38 x 89 | 3.41 | 3.10 | 2.71 |
| | | 38 x 140 | 5.37 | 4.88 | 4.26 |
| | | 38 x 184 | 7.05 | 6.40 | 5.59 |
| | | 38 x 235 | 9.01 | 8.18 | 7.15 |
| | | 38 x 286 | 10.96 | 9.96 | 8.70 |
| | No. 1 and No. 2 | 38 x 89 | 3.27 | 2.97 | 2.59 |
| | | 38 x 140 | 5.14 | 4.67 | 4.08 |
| | | 38 x 184 | 6.76 | 6.14 | 5.36 |
| | | 38 x 235 | 8.63 | 7.84 | 6.85 |
| | | 38 x 286 | 10.50 | 9.54 | 8.34 |
| | No. 3 | 38 x 89 | 3.17 | 2.88 | 2.42 |
| | | 38 x 140 | 4.89 | 4.23 | 3.46 |
| | | 38 x 184 | 5.95 | 5.15 | 4.20 |
| | | 38 x 235 | 7.27 | 6.30 | 5.14 |
| | | 38 x 286 | 8.44 | 7.31 | 5.97 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | Select Structural | 38 x 89 | 3.17 | 2.88 | 2.51 |
| | | 38 x 89 | 3.06 | 2.78 | 2.34 |
| | No. 1 and No. 2 | 38 x 89 | 3.36 | 3.06 | 2.67 |
| | | 38 x 140 | 5.29 | 4.81 | 4.20 |
| | | 38 x 184 | 6.96 | 6.32 | 5.52 |
| | | 38 x 235 | 8.88 | 8.07 | 7.05 |
| | | 38 x 286 | 10.81 | 9.82 | 8.58 |
| | No. 3 | 38 x 89 | 3.27 | 2.97 | 2.59 |
| | | 38 x 140 | 5.14 | 4.67 | 4.08 |
| | | 38 x 184 | 6.76 | 6.14 | 5.36 |
| | | 38 x 235 | 8.63 | 7.84 | 6.85 |
| | | 38 x 286 | 10.50 | 9.54 | 8.34 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | Select Structural | 38 x 89 | 3.17 | 2.88 | 2.51 |
| | | 38 x 140 | 4.98 | 4.53 | 3.95 |
| | | 38 x 184 | 6.55 | 5.95 | 5.19 |
| | | 38 x 235 | 8.36 | 7.60 | 6.34 |
| | | 38 x 286 | 10.18 | 9.01 | 7.36 |
| | No. 1 and No. 2 | 38 x 89 | 3.17 | 2.88 | 2.50 |
| | | 38 x 89 | 3.06 | 2.78 | 2.43 |
| | No. 3 | 38 x 89 | 3.22 | 2.92 | 2.55 |
| | | 38 x 140 | 5.06 | 4.60 | 4.02 |
| | | 38 x 184 | 6.65 | 6.05 | 5.28 |
| | | 38 x 235 | 8.50 | 7.72 | 6.74 |
| | | 38 x 286 | 10.34 | 9.40 | 8.21 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | No. 1 and No. 2 | 38 x 89 | 3.11 | 2.83 | 2.47 |
| | | 38 x 140 | 4.90 | 4.45 | 3.89 |
| | | 38 x 184 | 6.44 | 5.85 | 5.11 |
| | | 38 x 235 | 8.22 | 7.47 | 6.52 |
| | | 38 x 286 | 10.00 | 9.09 | 7.94 |
| | No. 3 | 38 x 89 | 3.06 | 2.78 | 2.43 |
| | | 38 x 140 | 4.81 | 4.37 | 3.82 |
| | | 38 x 184 | 6.32 | 5.74 | 5.02 |
| | | 38 x 235 | 8.07 | 7.33 | 6.34 |
| | | 38 x 286 | 9.82 | 8.93 | 7.36 |
| Column 1 | Construction | 38 x 89 | 3.06 | 2.78 | 2.43 |
| | Standard | 38 x 89 | 2.94 | 2.67 | 2.33 |
| Column 1 | 2 | 3 | 4 | 5 | 6 |

| Commercial Designation | Grade | Joist Size, mm | Maximum Span, m | | |
|---|-------------------|----------------|-------------------|------|------|
| | | | Joist Spacing, mm | | |
| | | | 300 | 400 | 600 |
| Northern Species (includes any Canadian Species covered by the NLGA Standard Grading Rules) | Select Structural | 38 x 89 | 2.88 | 2.61 | 2.28 |
| | | 38 x 140 | 4.53 | 4.11 | 3.59 |
| | | 38 x 184 | 5.95 | 5.40 | 4.72 |
| | | 38 x 235 | 7.60 | 6.90 | 6.03 |
| | | 38 x 286 | 9.25 | 8.40 | 7.34 |
| | No. 1 and No. 2 | 38 x 89 | 2.81 | 2.55 | 2.23 |
| | | 38 x 140 | 4.42 | 4.02 | 3.51 |
| | | 38 x 184 | 5.81 | 5.28 | 4.61 |
| | | 38 x 235 | 7.42 | 6.74 | 5.89 |
| | | 38 x 286 | 9.03 | 8.21 | 7.17 |
| | No. 3 | 38 x 89 | 2.74 | 2.49 | 2.18 |
| | | 38 x 140 | 4.31 | 3.92 | 3.42 |
| | | 38 x 184 | 5.67 | 5.09 | 4.16 |
| | | 38 x 235 | 7.19 | 6.23 | 5.08 |
| | | 38 x 286 | 8.34 | 7.23 | 5.90 |
| | Construction | 38 x 89 | 2.74 | 2.49 | 2.18 |
| | Standard | 38 x 89 | 2.67 | 2.43 | 2.03 |
| Column 1 | 2 | 3 | 4 | 5 | 6 |

Table A-4

Maximum Spans for Roof Joists - Specified Roof Snow Loads 1.0 to 2.0 kPa

Forming Part of Sentence 9.23.4.2.(1)

| Commercial Designation | Grade | Joist Size, mm | Maximum Span, m | | | | | | | | |
|--|-------------------|----------------|--------------------------|------|------|-------------------|------|------|-------------------|------|------|
| | | | Specified Snow Load, kPa | | | | | | | | |
| | | | 1.0 | | | 1.5 | | | 2.0 | | |
| | | | Joist Spacing, mm | | | Joist Spacing, mm | | | Joist Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 | 300 | 400 | 600 |
| Douglas Fir - Larch (includes Douglas Fir and Western Larch) | Select Structural | 38 x 89 | 2.71 | 2.46 | 2.15 | 2.37 | 2.15 | 1.88 | 2.15 | 1.95 | 1.71 |
| | | 38 x 140 | 4.26 | 3.87 | 3.38 | 3.72 | 3.38 | 2.95 | 3.38 | 3.07 | 2.68 |
| | | 38 x 184 | 5.60 | 5.09 | 4.44 | 4.89 | 4.44 | 3.88 | 4.44 | 4.04 | 3.53 |
| | | 38 x 235 | 7.15 | 6.49 | 5.67 | 6.24 | 5.67 | 4.96 | 5.67 | 5.15 | 4.50 |
| | | 38 x 286 | 8.70 | 7.90 | 6.91 | 7.60 | 6.91 | 6.03 | 6.91 | 6.27 | 5.48 |
| | No. 1 and No. 2 | 38 x 89 | 2.59 | 2.36 | 2.06 | 2.27 | 2.06 | 1.80 | 2.06 | 1.87 | 1.63 |
| | | 38 x 140 | 4.08 | 3.71 | 3.24 | 3.57 | 3.24 | 2.83 | 3.24 | 2.94 | 2.57 |
| | | 38 x 184 | 5.36 | 4.87 | 4.26 | 4.69 | 4.26 | 3.72 | 4.26 | 3.87 | 3.38 |
| | | 38 x 235 | 6.85 | 6.22 | 5.44 | 5.98 | 5.44 | 4.74 | 5.44 | 4.94 | 4.22 |
| | | 38 x 286 | 8.34 | 7.57 | 6.40 | 7.28 | 6.62 | 5.50 | 6.62 | 6.00 | 4.90 |
| | No. 3 | 38 x 89 | 2.49 | 2.16 | 1.76 | 2.14 | 1.85 | 1.51 | 1.91 | 1.65 | 1.35 |
| | | 38 x 140 | 3.56 | 3.08 | 2.51 | 3.06 | 2.65 | 2.16 | 2.72 | 2.36 | 1.92 |
| | | 38 x 184 | 4.33 | 3.75 | 3.06 | 3.72 | 3.22 | 2.63 | 3.31 | 2.87 | 2.34 |
| | | 38 x 235 | 5.29 | 4.58 | 3.74 | 4.55 | 3.94 | 3.22 | 4.05 | 3.51 | 2.86 |
| | | 38 x 286 | 6.14 | 5.32 | 4.34 | 5.28 | 4.57 | 3.73 | 4.70 | 4.07 | 3.32 |
| | Construction | 38 x 89 | 2.51 | 2.28 | 1.99 | 2.20 | 1.99 | 1.74 | 1.99 | 1.81 | 1.58 |
| | Standard | 38 x 89 | 2.41 | 2.08 | 1.70 | 2.07 | 1.79 | 1.46 | 1.84 | 1.60 | 1.30 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| Commercial Designation | Grade | Joist Size, mm | Maximum Span, m | | | | | | | | |
|--|--------------------|----------------|--------------------------|------|------|-------------------|------|------|-------------------|------|------|
| | | | Specified Snow Load, kPa | | | | | | | | |
| | | | 1.0 | | | 1.5 | | | 2.0 | | |
| | | | Joist Spacing, mm | | | Joist Spacing, mm | | | Joist Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 | 300 | 400 | 600 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | Select Structural | 38 x 89 | 2.67 | 2.43 | 2.12 | 2.33 | 2.12 | 1.85 | 2.12 | 1.93 | 1.68 |
| | | 38 x 140 | 4.20 | 3.82 | 3.33 | 3.67 | 3.33 | 2.91 | 3.33 | 3.03 | 2.65 |
| | | 38 x 184 | 5.52 | 5.02 | 4.38 | 4.82 | 4.38 | 3.83 | 4.38 | 3.98 | 3.48 |
| | | 38 x 235 | 7.05 | 6.41 | 5.60 | 6.16 | 5.60 | 4.89 | 5.60 | 5.09 | 4.44 |
| | | 38 x 286 | 8.58 | 7.80 | 6.81 | 7.50 | 6.81 | 5.95 | 6.81 | 6.19 | 5.41 |
| | No. 1 and No. 2 | 38 x 89 | 2.59 | 2.36 | 2.06 | 2.27 | 2.06 | 1.80 | 2.06 | 1.87 | 1.63 |
| | | 38 x 140 | 4.08 | 3.71 | 3.24 | 3.57 | 3.24 | 2.83 | 3.24 | 2.94 | 2.57 |
| | | 38 x 184 | 5.36 | 4.87 | 4.26 | 4.69 | 4.26 | 3.72 | 4.26 | 3.87 | 3.38 |
| | | 38 x 235 | 6.85 | 6.22 | 5.44 | 5.98 | 5.44 | 4.75 | 5.44 | 4.94 | 4.32 |
| | | 38 x 286 | 8.34 | 7.57 | 6.62 | 7.28 | 6.62 | 5.77 | 6.62 | 6.01 | 5.25 |
| | No. 3 | 38 x 89 | 2.51 | 2.28 | 1.99 | 2.20 | 1.99 | 1.74 | 1.99 | 1.81 | 1.58 |
| | | 38 x 140 | 3.95 | 3.59 | 3.10 | 3.45 | 3.14 | 2.67 | 3.14 | 2.85 | 2.37 |
| | | 38 x 184 | 5.20 | 4.62 | 3.77 | 4.54 | 3.97 | 3.24 | 4.09 | 3.54 | 2.89 |
| | | 38 x 235 | 6.53 | 5.65 | 4.61 | 5.61 | 4.86 | 3.97 | 5.00 | 4.33 | 3.53 |
| | | 38 x 286 | 7.57 | 6.56 | 5.35 | 6.51 | 5.64 | 4.60 | 5.80 | 5.02 | 4.10 |
| | Construction | 38 x 89 | 2.51 | 2.28 | 1.99 | 2.20 | 1.99 | 1.74 | 1.99 | 1.81 | 1.58 |
| | Standard | 38 x 89 | 2.43 | 2.18 | 1.78 | 2.12 | 1.88 | 1.53 | 1.93 | 1.67 | 1.36 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | Select Structural | 38 x 89 | 2.55 | 2.32 | 2.03 | 2.23 | 2.03 | 1.77 | 2.03 | 1.84 | 1.61 |
| | | 38 x 140 | 4.02 | 3.65 | 3.19 | 3.51 | 3.19 | 2.79 | 3.19 | 2.90 | 2.53 |
| | | 38 x 184 | 5.28 | 4.80 | 4.19 | 4.61 | 4.19 | 3.66 | 4.19 | 3.81 | 3.33 |
| | | 38 x 235 | 6.74 | 6.13 | 5.35 | 5.89 | 5.35 | 4.68 | 5.35 | 4.86 | 4.25 |
| | | 38 x 286 | 8.21 | 7.46 | 6.52 | 7.17 | 6.52 | 5.69 | 6.52 | 5.92 | 5.17 |
| | No. 1 and No. 2 | 38 x 89 | 2.47 | 2.24 | 1.96 | 2.16 | 1.96 | 1.71 | 1.96 | 1.78 | 1.56 |
| | | 38 x 140 | 3.89 | 3.53 | 3.08 | 3.40 | 3.08 | 2.69 | 3.08 | 2.80 | 2.45 |
| | | 38 x 184 | 5.11 | 4.64 | 4.05 | 4.46 | 4.05 | 3.54 | 4.05 | 3.68 | 3.22 |
| | | 38 x 235 | 6.52 | 5.93 | 5.18 | 5.70 | 5.18 | 4.52 | 5.18 | 4.70 | 4.11 |
| | | 38 x 286 | 7.94 | 7.21 | 6.30 | 6.94 | 6.30 | 5.50 | 6.30 | 5.73 | 5.00 |
| | No. 3 | 38 x 89 | 2.43 | 2.20 | 1.93 | 2.12 | 1.93 | 1.68 | 1.93 | 1.75 | 1.53 |
| | | 38 x 140 | 3.82 | 3.47 | 3.03 | 3.33 | 3.03 | 2.65 | 3.03 | 2.75 | 2.37 |
| | | 38 x 184 | 5.02 | 4.56 | 3.77 | 4.38 | 3.97 | 3.24 | 3.98 | 3.54 | 2.89 |
| | | 38 x 235 | 6.41 | 5.65 | 4.61 | 5.60 | 4.86 | 3.97 | 5.00 | 4.33 | 3.53 |
| | | 38 x 286 | 7.57 | 6.56 | 5.35 | 6.51 | 5.64 | 4.60 | 5.80 | 5.02 | 4.10 |
| | Construction | 38 x 89 | 2.43 | 2.20 | 1.93 | 2.12 | 1.93 | 1.68 | 1.93 | 1.75 | 1.53 |
| | Standard | 38 x 89 | 2.33 | 2.12 | 1.85 | 2.04 | 1.85 | 1.59 | 1.85 | 1.68 | 1.41 |
| Northern Species (includes any Canadian Species covered by the NLGA Standard Grading Rules) | Select Structural | 38 x 89 | 2.28 | 2.07 | 1.81 | 1.99 | 1.81 | 1.58 | 1.81 | 1.65 | 1.44 |
| | | 38 x 140 | 3.59 | 3.26 | 2.85 | 3.14 | 2.85 | 2.49 | 2.85 | 2.59 | 2.26 |
| | | 38 x 184 | 4.72 | 4.29 | 3.75 | 4.12 | 3.75 | 3.27 | 3.75 | 3.40 | 2.97 |
| | | 38 x 235 | 6.03 | 5.48 | 4.79 | 5.27 | 4.79 | 4.18 | 4.79 | 4.35 | 3.80 |
| | | 38 x 286 | 7.34 | 6.67 | 5.82 | 6.41 | 5.82 | 5.09 | 5.82 | 5.29 | 4.62 |
| | No. 1 and No. 2 | 38 x 89 | 2.23 | 2.03 | 1.77 | 1.95 | 1.77 | 1.55 | 1.77 | 1.61 | 1.41 |
| | | 38 x 140 | 3.51 | 3.19 | 2.79 | 3.07 | 2.79 | 2.43 | 2.79 | 2.53 | 2.21 |
| | | 38 x 184 | 4.61 | 4.19 | 3.66 | 4.03 | 3.66 | 3.20 | 3.66 | 3.33 | 2.91 |
| | | 38 x 235 | 5.89 | 5.35 | 4.68 | 5.15 | 4.68 | 4.09 | 4.68 | 4.25 | 3.68 |
| | | 38 x 286 | 7.17 | 6.52 | 5.58 | 6.26 | 5.69 | 4.80 | 5.69 | 5.17 | 4.27 |
| | No. 3 | 38 x 89 | 2.18 | 1.98 | 1.73 | 1.90 | 1.73 | 1.50 | 1.73 | 1.57 | 1.33 |
| | | 38 x 140 | 3.42 | 3.05 | 2.49 | 2.99 | 2.62 | 2.14 | 2.69 | 2.33 | 1.90 |
| | | 38 x 184 | 4.28 | 3.71 | 3.03 | 3.68 | 3.19 | 2.60 | 3.28 | 2.84 | 2.32 |
| | | 38 x 235 | 5.23 | 4.53 | 3.70 | 4.50 | 3.90 | 3.18 | 4.01 | 3.47 | 2.83 |
| | | 38 x 286 | 6.07 | 5.26 | 4.29 | 5.22 | 4.52 | 3.69 | 4.65 | 4.03 | 3.29 |
| | Construction | 38 x 89 | 2.18 | 1.98 | 1.73 | 1.90 | 1.73 | 1.51 | 1.73 | 1.57 | 1.37 |
| | Standard | 38 x 89 | 2.09 | 1.81 | 1.48 | 1.80 | 1.56 | 1.27 | 1.60 | 1.38 | 1.13 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

Table A-5

Maximum Spans for Roof Joists - Specified Roof Snow Loads 2.5 and 3.0 kPa

Forming Part of Sentence 9.23.4.2.(1)

| Commercial Designation | Grade | Joist Size, mm | Maximum Span, m | | | | | |
|---|-------------------|----------------|--------------------------|------|------|-------------------|------|------|
| | | | Specified Snow Load, kPa | | | | | |
| | | | 2.5 | | | 3.0 | | |
| | | | Joist Spacing, mm | | | Joist Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 |
| Douglas Fir - Larch (includes Douglas Fir and Western Larch) | Select Structural | 38 x 89 | 1.99 | 1.81 | 1.58 | 1.88 | 1.71 | 1.49 |
| | | 38 x 140 | 3.14 | 2.85 | 2.49 | 2.95 | 2.68 | 2.34 |
| | | 38 x 184 | 4.12 | 3.75 | 3.27 | 3.88 | 3.53 | 3.08 |
| | | 38 x 235 | 5.27 | 4.79 | 4.18 | 4.96 | 4.50 | 3.93 |
| | | 38 x 286 | 6.41 | 5.82 | 5.09 | 6.03 | 5.48 | 4.79 |
| | No. 1 and No. 2 | 38 x 89 | 1.91 | 1.74 | 1.52 | 1.80 | 1.63 | 1.43 |
| | | 38 x 140 | 3.01 | 2.73 | 2.39 | 2.83 | 2.57 | 2.25 |
| | | 38 x 184 | 3.95 | 3.59 | 3.14 | 3.72 | 3.38 | 2.90 |
| | | 38 x 235 | 5.05 | 4.59 | 3.84 | 4.75 | 4.32 | 3.55 |
| | | 38 x 286 | 6.14 | 5.46 | 4.46 | 5.78 | 5.05 | 4.12 |
| | No. 3 | 38 x 89 | 1.74 | 1.50 | 1.23 | 1.60 | 1.39 | 1.13 |
| | | 38 x 140 | 2.48 | 2.15 | 1.75 | 2.29 | 1.98 | 1.62 |
| | | 38 x 184 | 3.01 | 2.61 | 2.13 | 2.79 | 2.41 | 1.97 |
| | | 38 x 235 | 3.69 | 3.19 | 2.61 | 3.41 | 2.95 | 2.41 |
| | | 38 x 286 | 4.28 | 3.70 | 3.03 | 3.95 | 3.42 | 2.79 |
| | Construction | 38 x 89 | 1.85 | 1.68 | 1.47 | 1.74 | 1.58 | 1.38 |
| | Standard | 38 x 89 | 1.68 | 1.45 | 1.19 | 1.55 | 1.34 | 1.10 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | Select Structural | 38 x 89 | 1.97 | 1.79 | 1.56 | 1.85 | 1.68 | 1.47 |
| | | 38 x 140 | 3.10 | 2.81 | 2.46 | 2.91 | 2.65 | 2.31 |
| | | 38 x 184 | 4.07 | 3.70 | 3.23 | 3.83 | 3.48 | 3.04 |
| | | 38 x 235 | 5.20 | 4.72 | 4.12 | 4.89 | 4.44 | 3.88 |
| | | 38 x 286 | 6.32 | 5.75 | 5.02 | 5.95 | 5.41 | 4.72 |
| | No. 1 and No. 2 | 38 x 89 | 1.91 | 1.74 | 1.52 | 1.80 | 1.63 | 1.43 |
| | | 38 x 140 | 3.01 | 2.73 | 2.39 | 2.83 | 2.57 | 2.25 |
| | | 38 x 184 | 3.95 | 3.59 | 3.14 | 3.72 | 3.38 | 2.95 |
| | | 38 x 235 | 5.05 | 4.59 | 4.01 | 4.75 | 4.32 | 3.72 |
| | | 38 x 286 | 6.14 | 5.58 | 4.68 | 5.78 | 5.25 | 4.32 |
| | No. 3 | 38 x 89 | 1.85 | 1.68 | 1.47 | 1.74 | 1.58 | 1.38 |
| | | 38 x 140 | 2.91 | 2.65 | 2.16 | 2.74 | 2.45 | 2.00 |
| | | 38 x 184 | 3.72 | 3.22 | 2.63 | 3.44 | 2.98 | 2.43 |
| | | 38 x 235 | 4.55 | 3.94 | 3.22 | 4.20 | 3.64 | 2.97 |
| | | 38 x 286 | 5.28 | 4.57 | 3.73 | 4.88 | 4.22 | 3.45 |
| | Construction | 38 x 89 | 1.85 | 1.68 | 1.47 | 1.74 | 1.58 | 1.38 |
| | Standard | 38 x 89 | 1.76 | 1.52 | 1.24 | 1.62 | 1.40 | 1.15 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| Commercial Designation | Grade | Joist Size, mm | Maximum Span, m | | | | | |
|--|-------------------|----------------|--------------------------|------|------|-------------------|------|------|
| | | | Specified Snow Load, kPa | | | | | |
| | | | 2.5 | | | 3.0 | | |
| | | | Joist Spacing, mm | | | Joist Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | Select Structural | 38 x 89 | 1.88 | 1.71 | 1.49 | 1.77 | 1.61 | 1.41 |
| | | 38 x 140 | 2.96 | 2.69 | 2.35 | 2.79 | 2.53 | 2.21 |
| | | 38 x 184 | 3.89 | 3.54 | 3.09 | 3.66 | 3.33 | 2.91 |
| | | 38 x 235 | 4.97 | 4.52 | 3.94 | 4.68 | 4.25 | 3.71 |
| | | 38 x 286 | 6.05 | 5.50 | 4.80 | 5.69 | 5.17 | 4.52 |
| | No. 1 and No. 2 | 38 x 89 | 1.82 | 1.65 | 1.44 | 1.71 | 1.56 | 1.36 |
| | | 38 x 140 | 2.86 | 2.60 | 2.27 | 2.69 | 2.45 | 2.14 |
| | | 38 x 184 | 3.76 | 3.42 | 2.99 | 3.54 | 3.22 | 2.81 |
| | | 38 x 235 | 4.81 | 4.37 | 3.82 | 4.52 | 4.11 | 3.59 |
| | | 38 x 286 | 5.85 | 5.31 | 4.64 | 5.50 | 5.00 | 4.37 |
| | No. 3 | 38 x 89 | 1.79 | 1.62 | 1.42 | 1.68 | 1.53 | 1.34 |
| | | 38 x 140 | 2.81 | 2.56 | 2.16 | 2.65 | 2.40 | 2.00 |
| | | 38 x 184 | 3.70 | 3.22 | 2.63 | 3.44 | 2.98 | 2.43 |
| | | 38 x 235 | 4.55 | 3.94 | 3.22 | 4.20 | 3.64 | 2.97 |
| | | 38 x 286 | 5.28 | 4.57 | 3.73 | 4.88 | 4.22 | 3.45 |
| | Construction | 38 x 89 | 1.79 | 1.62 | 1.42 | 1.68 | 1.53 | 1.34 |
| | Standard | 38 x 89 | 1.72 | 1.56 | 1.29 | 1.62 | 1.46 | 1.19 |
| Northern Species (includes any Canadian Species covered by the NLGA Standard Grading Rules) | Select Structural | 38 x 89 | 1.68 | 1.53 | 1.34 | 1.58 | 1.44 | 1.26 |
| | | 38 x 140 | 2.65 | 2.40 | 2.10 | 2.49 | 2.26 | 1.98 |
| | | 38 x 184 | 3.48 | 3.16 | 2.76 | 3.27 | 2.97 | 2.60 |
| | | 38 x 235 | 4.44 | 4.04 | 3.53 | 4.18 | 3.80 | 3.32 |
| | | 38 x 286 | 5.41 | 4.91 | 4.29 | 5.09 | 4.62 | 4.04 |
| | No. 1 and No. 2 | 38 x 89 | 1.64 | 1.49 | 1.31 | 1.55 | 1.41 | 1.23 |
| | | 38 x 140 | 2.59 | 2.35 | 2.05 | 2.43 | 2.21 | 1.93 |
| | | 38 x 184 | 3.40 | 3.09 | 2.70 | 3.20 | 2.91 | 2.53 |
| | | 38 x 235 | 4.34 | 3.94 | 3.35 | 4.09 | 3.71 | 3.10 |
| | | 38 x 286 | 5.28 | 4.76 | 3.89 | 4.97 | 4.40 | 3.59 |
| | No. 3 | 38 x 89 | 1.60 | 1.46 | 1.21 | 1.51 | 1.37 | 1.12 |
| | | 38 x 140 | 2.45 | 2.12 | 1.73 | 2.26 | 1.96 | 1.60 |
| | | 38 x 184 | 2.98 | 2.58 | 2.11 | 2.76 | 2.39 | 1.95 |
| | | 38 x 235 | 3.65 | 3.16 | 2.58 | 3.37 | 2.92 | 2.38 |
| | | 38 x 286 | 4.23 | 3.66 | 2.99 | 3.91 | 3.39 | 2.76 |
| | Construction | 38 x 89 | 1.60 | 1.46 | 1.27 | 1.51 | 1.37 | 1.20 |
| | Standard | 38 x 89 | 1.46 | 1.26 | 1.03 | 1.34 | 1.16 | 0.95 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Table A-6

Maximum Spans for Roof Rafters Specified Roof Snow Loads 1.0 to 2.0 kPa

Forming Part of Sentence 9.23.4.2.(1)

| Commercial Designation | Grade | Rafter Size, mm | Maximum Span, m | | | | | | | | |
|---|-------------------|-----------------|--------------------------|------|------|--------------------|------|------|--------------------|------|------|
| | | | Specified Snow Load, kPa | | | | | | | | |
| | | | 1.0 | | | 1.5 | | | 2.0 | | |
| | | | Rafter Spacing, mm | | | Rafter Spacing, mm | | | Rafter Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 | 300 | 400 | 600 |
| Douglas Fir - Larch (includes Douglas Fir and Western larch) | Select Structural | 38 x 89 | 3.41 | 3.10 | 2.71 | 2.98 | 2.71 | 2.37 | 2.71 | 2.46 | 2.15 |
| | | 38 x 140 | 5.37 | 4.88 | 4.26 | 4.69 | 4.26 | 3.72 | 4.26 | 3.87 | 3.38 |
| | | 38 x 184 | 7.05 | 6.41 | 5.60 | 6.16 | 5.60 | 4.89 | 5.60 | 5.09 | 4.44 |
| | | 38 x 235 | 9.01 | 8.18 | 7.15 | 7.87 | 7.15 | 6.24 | 7.15 | 6.49 | 5.62 |
| | | 38 x 285 | 10.96 | 9.96 | 8.70 | 9.58 | 8.70 | 7.40 | 8.70 | 7.90 | 6.52 |
| | No. 1 and No. 2 | 38 x 89 | 3.27 | 2.97 | 2.59 | 2.86 | 2.59 | 2.27 | 2.59 | 2.36 | 2.06 |
| | | 38 x 140 | 5.14 | 4.67 | 3.95 | 4.49 | 4.08 | 3.34 | 4.08 | 3.60 | 2.94 |
| | | 38 x 184 | 6.76 | 5.88 | 4.80 | 5.74 | 4.97 | 4.06 | 5.06 | 4.38 | 3.58 |
| | | 38 x 235 | 8.30 | 7.19 | 5.87 | 7.02 | 6.08 | 4.96 | 6.19 | 5.36 | 4.38 |
| | | 38 x 285 | 9.63 | 8.34 | 6.81 | 8.14 | 7.05 | 5.76 | 7.18 | 6.22 | 5.08 |
| | No. 3 | 38 x 89 | 2.65 | 2.30 | 1.87 | 2.24 | 1.94 | 1.58 | 1.98 | 1.71 | 1.40 |
| | | 38 x 140 | 3.78 | 3.28 | 2.68 | 3.20 | 2.77 | 2.26 | 2.82 | 2.44 | 1.99 |
| | | 38 x 184 | 4.61 | 3.99 | 3.26 | 3.89 | 3.37 | 2.75 | 3.43 | 2.97 | 2.43 |
| | | 38 x 235 | 5.63 | 4.88 | 3.98 | 4.76 | 4.12 | 3.37 | 4.20 | 3.64 | 2.97 |
| | | 38 x 285 | 6.53 | 5.66 | 4.62 | 5.52 | 4.78 | 3.91 | 4.87 | 4.22 | 3.44 |
| | Construction | 38 x 89 | 3.17 | 2.88 | 2.42 | 2.77 | 2.50 | 2.04 | 2.51 | 2.21 | 1.80 |
| | Standard | 38 x 89 | 2.56 | 2.22 | 1.81 | 2.17 | 1.88 | 1.53 | 1.91 | 1.65 | 1.35 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | Select Structural | 38 x 89 | 3.36 | 3.06 | 2.67 | 2.94 | 2.67 | 2.33 | 2.67 | 2.43 | 2.12 |
| | | 38 x 140 | 5.29 | 4.81 | 4.20 | 4.62 | 4.20 | 3.67 | 4.20 | 3.82 | 3.33 |
| | | 38 x 184 | 6.96 | 6.32 | 5.52 | 6.08 | 5.52 | 4.82 | 5.52 | 5.02 | 4.38 |
| | | 38 x 235 | 8.88 | 8.07 | 7.05 | 7.76 | 7.05 | 6.16 | 7.05 | 6.41 | 5.54 |
| | | 38 x 285 | 10.81 | 9.82 | 8.58 | 9.45 | 8.58 | 7.28 | 8.58 | 7.80 | 6.42 |
| | No. 1 and No. 2 | 38 x 89 | 3.27 | 2.97 | 2.59 | 2.86 | 2.59 | 2.27 | 2.59 | 2.36 | 2.06 |
| | | 38 x 140 | 5.14 | 4.67 | 4.08 | 4.49 | 4.08 | 3.50 | 4.08 | 3.71 | 3.08 |
| | | 38 x 184 | 6.76 | 6.14 | 5.04 | 5.90 | 5.21 | 4.26 | 5.31 | 4.60 | 3.75 |
| | | 38 x 235 | 8.63 | 7.54 | 6.16 | 7.36 | 6.37 | 5.20 | 6.49 | 5.62 | 4.59 |
| | | 38 x 285 | 10.11 | 8.75 | 7.15 | 8.54 | 7.40 | 6.04 | 7.53 | 6.52 | 5.33 |
| | No. 3 | 38 x 89 | 3.17 | 2.83 | 2.31 | 2.76 | 2.39 | 1.95 | 2.44 | 2.11 | 1.72 |
| | | 38 x 140 | 4.67 | 4.04 | 3.30 | 3.95 | 3.42 | 2.79 | 3.48 | 3.01 | 2.46 |
| | | 38 x 184 | 5.68 | 4.92 | 4.02 | 4.80 | 4.16 | 3.40 | 4.23 | 3.67 | 2.99 |
| | | 38 x 235 | 6.95 | 6.02 | 4.91 | 5.87 | 5.08 | 4.15 | 5.18 | 4.48 | 3.66 |
| | | 38 x 285 | 8.06 | 6.98 | 5.70 | 6.81 | 5.90 | 4.82 | 6.01 | 5.20 | 4.25 |
| | Construction | 38 x 89 | 3.17 | 2.88 | 2.51 | 2.77 | 2.51 | 2.14 | 2.51 | 2.28 | 1.89 |
| | Standard | 38 x 89 | 2.68 | 2.32 | 1.90 | 2.27 | 1.96 | 1.60 | 2.00 | 1.73 | 1.41 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| Commercial Designation | Grade | Rafter Size, mm | Maximum Span, m | | | | | | | | |
|--|-------------------|-----------------|--------------------------|------|------|--------------------|------|------|--------------------|------|------|
| | | | Specified Snow Load, kPa | | | | | | | | |
| | | | 1.0 | | | 1.5 | | | 2.0 | | |
| | | | Rafter Spacing, mm | | | Rafter Spacing, mm | | | Rafter Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 | 300 | 400 | 600 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | Select Structural | 38 x 89 | 3.22 | 2.92 | 2.55 | 2.81 | 2.55 | 2.23 | 2.55 | 2.32 | 2.03 |
| | | 38 x 140 | 5.06 | 4.60 | 4.02 | 4.42 | 4.02 | 3.51 | 4.02 | 3.65 | 3.19 |
| | | 38 x 184 | 6.65 | 6.05 | 5.28 | 5.81 | 5.28 | 4.61 | 5.28 | 4.80 | 4.19 |
| | | 38 x 235 | 8.50 | 7.72 | 6.74 | 7.42 | 6.74 | 5.89 | 6.74 | 6.13 | 5.35 |
| | | 38 x 285 | 10.34 | 9.40 | 8.21 | 9.03 | 8.21 | 7.17 | 8.21 | 7.46 | 6.52 |
| | No. 1 and No. 2 | 38 x 89 | 3.11 | 2.83 | 2.47 | 2.72 | 2.47 | 2.16 | 2.47 | 2.24 | 1.96 |
| | | 38 x 140 | 4.90 | 4.45 | 3.89 | 4.28 | 3.89 | 3.40 | 3.89 | 3.53 | 3.08 |
| | | 38 x 184 | 6.44 | 5.85 | 5.11 | 5.62 | 5.11 | 4.41 | 5.11 | 4.64 | 3.89 |
| | | 38 x 235 | 8.22 | 7.47 | 6.38 | 7.18 | 6.52 | 5.39 | 6.52 | 5.82 | 4.75 |
| | | 38 x 285 | 10.00 | 9.06 | 7.40 | 8.74 | 7.66 | 6.25 | 7.80 | 6.76 | 5.52 |
| | No. 3 | 38 x 89 | 3.06 | 2.78 | 2.31 | 2.67 | 2.39 | 1.95 | 2.43 | 2.11 | 1.72 |
| | | 38 x 140 | 4.67 | 4.04 | 3.30 | 3.95 | 3.42 | 2.79 | 3.48 | 3.01 | 2.46 |
| | | 38 x 184 | 5.68 | 4.92 | 4.02 | 4.80 | 4.16 | 3.40 | 4.23 | 3.67 | 2.99 |
| | | 38 x 235 | 6.95 | 6.02 | 4.91 | 5.87 | 5.08 | 4.15 | 5.18 | 4.48 | 3.66 |
| | | 38 x 285 | 8.06 | 6.98 | 5.70 | 6.81 | 5.90 | 4.82 | 6.01 | 5.20 | 4.25 |
| | Construction | 38 x 89 | 3.06 | 2.78 | 2.43 | 2.67 | 2.43 | 2.12 | 2.43 | 2.20 | 1.93 |
| | Standard | 38 x 89 | 2.78 | 2.41 | 1.97 | 2.35 | 2.04 | 1.66 | 2.07 | 1.79 | 1.47 |
| Northern Species (includes any Canadian species covered by the NLGA Standard Grading Rules) | Select Structural | 38 x 89 | 2.88 | 2.61 | 2.28 | 2.51 | 2.28 | 1.99 | 2.28 | 2.07 | 1.81 |
| | | 38 x 140 | 4.53 | 4.11 | 3.59 | 3.95 | 3.59 | 3.14 | 3.59 | 3.26 | 2.85 |
| | | 38 x 184 | 5.95 | 5.40 | 4.72 | 5.20 | 4.72 | 4.12 | 4.72 | 4.29 | 3.68 |
| | | 38 x 235 | 7.60 | 6.90 | 6.03 | 6.64 | 6.03 | 5.11 | 6.03 | 5.48 | 4.51 |
| | | 38 x 285 | 9.25 | 8.40 | 7.01 | 8.08 | 7.26 | 5.93 | 7.34 | 6.40 | 5.23 |
| | No. 1 and No. 2 | 38 x 89 | 2.81 | 2.55 | 2.23 | 2.46 | 2.23 | 1.95 | 2.23 | 2.03 | 1.77 |
| | | 38 x 140 | 4.42 | 4.02 | 3.44 | 3.86 | 3.51 | 2.91 | 3.51 | 3.14 | 2.56 |
| | | 38 x 184 | 5.81 | 5.13 | 4.19 | 5.00 | 4.33 | 3.54 | 4.41 | 3.82 | 3.12 |
| | | 38 x 235 | 7.24 | 6.27 | 5.12 | 6.12 | 5.30 | 4.33 | 5.40 | 4.67 | 3.82 |
| | | 38 x 285 | 8.40 | 7.27 | 5.94 | 7.10 | 6.15 | 5.02 | 6.26 | 5.42 | 4.43 |
| | No. 3 | 38 x 89 | 2.62 | 2.27 | 1.85 | 2.22 | 1.92 | 1.57 | 1.95 | 1.69 | 1.38 |
| | | 38 x 140 | 3.74 | 3.24 | 2.65 | 3.16 | 2.74 | 2.24 | 2.79 | 2.42 | 1.97 |
| | | 38 x 184 | 4.56 | 3.94 | 3.22 | 3.85 | 3.33 | 2.72 | 3.40 | 2.94 | 2.40 |
| | | 38 x 235 | 5.57 | 4.82 | 3.94 | 4.71 | 4.08 | 3.33 | 4.15 | 3.60 | 2.94 |
| | | 38 x 285 | 6.46 | 5.60 | 4.57 | 5.46 | 4.73 | 3.86 | 4.82 | 4.17 | 3.41 |
| | Construction | 38 x 89 | 2.74 | 2.49 | 2.11 | 2.40 | 2.18 | 1.90 | 2.18 | 1.93 | 1.57 |
| | Standard | 38 x 89 | 2.22 | 1.93 | 1.57 | 1.88 | 1.63 | 1.33 | 1.66 | 1.44 | 1.17 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

Table A-7

Maximum Spans for Roof Rafters – Specified Roof Snow Loads 2.5 and 3.0 kPa

Forming Part of Sentence 9.23.4.2.(1)

| Commercial Designation | Grade | Rafter Size, mm | Maximum Span, m | | | | | |
|---|-------------------|-----------------|--------------------------|------|------|--------------------|------|------|
| | | | Specified Snow Load, kPa | | | | | |
| | | | 2.5 | | | 3.0 | | |
| | | | Rafter Spacing, mm | | | Rafter Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 |
| Douglas Fir - Larch (includes Douglas Fir and Western larch) | Select Structural | 38 x 89 | 2.51 | 2.28 | 1.99 | 2.37 | 2.15 | 1.88 |
| | | 38 x 140 | 3.95 | 3.59 | 3.14 | 3.72 | 3.38 | 2.95 |
| | | 38 x 184 | 5.20 | 4.72 | 4.12 | 4.89 | 4.44 | 3.83 |
| | | 38 x 235 | 6.64 | 6.03 | 5.08 | 6.24 | 5.67 | 4.68 |
| | | 38 x 285 | 8.08 | 7.23 | 5.90 | 7.60 | 6.65 | 5.43 |
| | No. 1 and No. 2 | 38 x 89 | 2.41 | 2.19 | 1.86 | 2.27 | 2.06 | 1.71 |
| | | 38 x 140 | 3.76 | 3.26 | 2.66 | 3.46 | 3.00 | 2.45 |
| | | 38 x 184 | 4.58 | 3.96 | 3.24 | 4.21 | 3.65 | 2.98 |
| | | 38 x 235 | 5.60 | 4.85 | 3.96 | 5.15 | 4.46 | 3.64 |
| | | 38 x 285 | 6.50 | 5.63 | 4.59 | 5.98 | 5.17 | 4.23 |
| | No. 3 | 38 x 89 | 1.79 | 1.55 | 1.26 | 1.64 | 1.42 | 1.16 |
| | | 38 x 140 | 2.55 | 2.21 | 1.80 | 2.35 | 2.03 | 1.66 |
| | | 38 x 184 | 3.10 | 2.69 | 2.20 | 2.86 | 2.47 | 2.02 |
| | | 38 x 235 | 3.80 | 3.29 | 2.68 | 3.49 | 3.02 | 2.47 |
| | | 38 x 285 | 4.41 | 3.82 | 3.12 | 4.05 | 3.51 | 2.87 |
| | Construction | 38 x 89 | 2.30 | 2.00 | 1.63 | 2.12 | 1.84 | 1.50 |
| | Standard | 38 x 89 | 1.73 | 1.50 | 1.22 | 1.59 | 1.38 | 1.12 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | Select Structural | 38 x 89 | 2.48 | 2.25 | 1.97 | 2.33 | 2.12 | 1.85 |
| | | 38 x 140 | 3.90 | 3.54 | 3.10 | 3.67 | 3.33 | 2.91 |
| | | 38 x 184 | 5.13 | 4.66 | 4.07 | 4.82 | 4.38 | 3.77 |
| | | 38 x 235 | 6.55 | 5.95 | 5.01 | 6.16 | 5.60 | 4.61 |
| | | 38 x 285 | 7.97 | 7.12 | 5.81 | 7.50 | 6.55 | 5.34 |
| | No. 1 and No. 2 | 38 x 89 | 2.41 | 2.19 | 1.91 | 2.27 | 2.06 | 1.80 |
| | | 38 x 140 | 3.79 | 3.42 | 2.79 | 3.57 | 3.14 | 2.57 |
| | | 38 x 184 | 4.80 | 4.16 | 3.40 | 4.42 | 3.83 | 3.12 |
| | | 38 x 235 | 5.87 | 5.08 | 4.15 | 5.40 | 4.68 | 3.82 |
| | | 38 x 285 | 6.81 | 5.90 | 4.82 | 6.27 | 5.43 | 4.43 |
| | No. 3 | 38 x 89 | 2.21 | 1.91 | 1.56 | 2.03 | 1.76 | 1.43 |
| | | 38 x 140 | 3.15 | 2.73 | 2.23 | 2.90 | 2.51 | 2.05 |
| | | 38 x 184 | 3.83 | 3.32 | 2.71 | 3.52 | 3.05 | 2.49 |
| | | 38 x 235 | 4.68 | 4.06 | 3.31 | 4.31 | 3.73 | 3.05 |
| | | 38 x 285 | 5.53 | 4.71 | 3.84 | 5.00 | 4.33 | 3.54 |
| | Commercial | 38 x 89 | 2.33 | 2.09 | 1.71 | 2.20 | 1.93 | 1.57 |
| | Standard | 38 x 89 | 1.81 | 1.57 | 1.28 | 1.66 | 1.44 | 1.18 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| Commercial Designation | Grade | Rafter Size, mm | Maximum Span, m | | | | | |
|--|-------------------|-----------------|--------------------------|------|------|--------------------|------|------|
| | | | Specified Snow Load, kPa | | | | | |
| | | | 2.5 | | | 3.0 | | |
| | | | Rafter Spacing, mm | | | Rafter Spacing, mm | | |
| | | | 300 | 400 | 600 | 300 | 400 | 600 |
| Northern Species (includes any Canadian species covered by the NLGA Standard Grading Rules) | Select Structural | 38 x 89 | 2.37 | 2.15 | 1.88 | 2.23 | 2.03 | 1.77 |
| | | 38 x 140 | 3.73 | 3.39 | 2.96 | 3.51 | 3.19 | 2.79 |
| | | 38 x 184 | 4.90 | 4.45 | 3.89 | 4.61 | 4.19 | 3.66 |
| | | 38 x 235 | 6.26 | 5.69 | 4.97 | 5.89 | 5.35 | 4.68 |
| | | 38 x 285 | 7.62 | 6.92 | 5.90 | 7.17 | 6.52 | 5.43 |
| | No. 1 and No. 2 | 38 x 89 | 2.29 | 2.08 | 1.82 | 2.16 | 1.96 | 1.71 |
| | | 38 x 140 | 3.61 | 3.28 | 2.86 | 3.40 | 3.08 | 2.66 |
| | | 38 x 184 | 4.74 | 4.31 | 3.52 | 4.46 | 3.96 | 3.23 |
| | | 38 x 235 | 6.06 | 5.27 | 4.30 | 5.59 | 4.84 | 3.96 |
| | | 38 x 285 | 7.06 | 6.11 | 4.99 | 6.49 | 5.62 | 4.59 |
| | No. 3 | 38 x 89 | 2.21 | 1.91 | 1.56 | 2.03 | 1.76 | 1.43 |
| | | 38 x 140 | 3.15 | 2.73 | 2.23 | 2.90 | 2.51 | 2.05 |
| | | 38 x 184 | 3.83 | 3.32 | 2.71 | 3.52 | 3.05 | 2.49 |
| | | 38 x 235 | 4.68 | 4.06 | 3.31 | 4.31 | 3.73 | 3.05 |
| | | 38 x 285 | 5.43 | 4.71 | 3.84 | 5.00 | 4.33 | 3.54 |
| | Construction | 38 x 89 | 2.25 | 2.05 | 1.77 | 2.12 | 1.93 | 1.63 |
| | Standard | 38 x 89 | 1.87 | 1.62 | 1.33 | 1.72 | 1.49 | 1.22 |
| Northern Species (includes any Canadian species covered by the NLGA Standard Grading Rules) | Select Structural | 38 x 89 | 2.12 | 1.93 | 1.68 | 1.99 | 1.81 | 1.58 |
| | | 38 x 140 | 3.33 | 3.03 | 2.65 | 3.14 | 2.85 | 2.49 |
| | | 38 x 184 | 4.38 | 3.98 | 3.33 | 4.12 | 3.75 | 3.07 |
| | | 38 x 235 | 5.60 | 4.99 | 4.08 | 5.27 | 4.59 | 3.75 |
| | | 38 x 285 | 6.69 | 5.79 | 4.73 | 6.15 | 5.33 | 4.35 |
| | No. 1 and No. 2 | 38 x 89 | 2.07 | 1.88 | 1.62 | 1.95 | 1.77 | 1.49 |
| | | 38 x 140 | 3.26 | 2.84 | 2.32 | 3.02 | 2.61 | 2.13 |
| | | 38 x 184 | 3.99 | 3.46 | 2.82 | 3.67 | 3.18 | 2.60 |
| | | 38 x 235 | 4.88 | 4.23 | 3.45 | 4.49 | 3.89 | 3.17 |
| | | 38 x 285 | 5.66 | 4.90 | 4.00 | 5.21 | 4.51 | 3.68 |
| | No. 3 | 38 x 89 | 1.77 | 1.53 | 1.25 | 1.63 | 1.41 | 1.15 |
| | | 38 x 140 | 2.52 | 2.19 | 1.78 | 2.32 | 2.01 | 1.64 |
| | | 38 x 184 | 3.07 | 2.66 | 2.17 | 2.82 | 2.45 | 2.00 |
| | | 38 x 235 | 3.76 | 3.25 | 2.66 | 3.45 | 2.99 | 2.44 |
| | | 38 x 285 | 4.36 | 3.77 | 3.08 | 4.01 | 3.47 | 2.83 |
| | Construction | 38 x 89 | 2.01 | 1.74 | 1.42 | 1.85 | 1.60 | 1.31 |
| | Standard | 38 x 89 | 1.50 | 1.30 | 1.06 | 1.38 | 1.19 | 0.98 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Table A-8

Maximum Spans for Built-up Floor Beams Supporting not more than One Floor⁽¹⁾

Forming Part of Sentence 9.23.4.2.(3)

| Commercial Designation | Grade | Supported Length, mm ⁽⁴⁾⁽⁵⁾ | Maximum Span, m ⁽²⁾⁽³⁾ | | | | | | | | |
|--|----------------------|--|-----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | | Size of Built-up Beam, mm | | | | | | | | |
| | | | 3 – 38 x 184 | 4 – 38 x 184 | 5 – 38 x 184 | 3 – 38 x 235 | 4 – 38 x 235 | 5 – 38 x 235 | 3 – 38 x 286 | 4 – 38 x 286 | 5 – 38 x 286 |
| Douglas Fir - Larch (includes Douglas Fir and Western larch) | Select Structural | 2.4 | 3.84 | 4.43 | 4.96 | 4.70 | 5.42 | 6.06 | 5.45 | 6.29 | 7.03 |
| | | 3.0 | 3.43 | 3.97 | 4.43 | 4.20 | 4.85 | 5.42 | 4.87 | 5.63 | 6.29 |
| | | 3.6 | 3.14 | 3.62 | 4.05 | 3.83 | 4.43 | 4.95 | 4.45 | 5.14 | 5.74 |
| | | 4.2 | 2.90 | 3.35 | 3.75 | 3.55 | 4.10 | 4.58 | 4.12 | 4.76 | 5.32 |
| | | 4.8 | 2.72 | 3.14 | 3.51 | 3.32 | 3.83 | 4.29 | 3.85 | 4.45 | 4.97 |
| | | 5.4 | 2.56 | 2.96 | 3.31 | 3.13 | 3.61 | 4.04 | 3.63 | 4.19 | 4.69 |
| | | 6.0 | 2.43 | 2.80 | 3.14 | 2.97 | 3.43 | 3.83 | 3.34 | 3.98 | 4.45 |
| | No. 1 and No. 2 | 2.4 | 2.99 | 3.45 | 3.86 | 3.66 | 4.22 | 4.72 | 4.24 | 4.90 | 5.48 |
| | | 3.0 | 2.67 | 3.09 | 3.45 | 3.27 | 3.78 | 4.22 | 3.79 | 4.38 | 4.90 |
| | | 3.6 | 2.44 | 2.82 | 3.15 | 2.98 | 3.45 | 3.85 | 3.46 | 4.00 | 4.47 |
| | | 4.2 | 2.26 | 2.61 | 2.92 | 2.76 | 3.19 | 3.57 | 3.21 | 3.70 | 4.14 |
| | | 4.8 | 2.11 | 2.44 | 2.73 | 2.59 | 2.98 | 3.34 | 3.00 | 3.46 | 3.87 |
| | | 5.4 | 1.99 | 2.30 | 2.57 | 2.44 | 2.81 | 3.15 | 2.83 | 3.27 | 3.65 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | Select Structural | 2.4 | 3.78 | 4.37 | 4.88 | 4.62 | 5.34 | 5.97 | 5.37 | 6.20 | 6.93 |
| | | 3.0 | 3.38 | 3.91 | 4.37 | 4.14 | 4.78 | 5.34 | 4.80 | 5.54 | 6.20 |
| | | 3.6 | 3.09 | 3.57 | 3.99 | 3.78 | 4.36 | 4.87 | 4.35 | 5.06 | 5.66 |
| | | 4.2 | 2.86 | 3.30 | 3.69 | 3.39 | 4.04 | 4.51 | 3.81 | 4.68 | 5.24 |
| | | 4.8 | 2.55 | 3.09 | 3.45 | 3.03 | 3.78 | 4.22 | 3.40 | 4.35 | 4.90 |
| | | 5.4 | 2.31 | 2.91 | 3.25 | 2.74 | 3.50 | 3.98 | 3.09 | 3.93 | 4.62 |
| | | 6.0 | 2.12 | 2.70 | 3.09 | 2.52 | 3.20 | 3.78 | 2.84 | 3.59 | 4.35 |
| | No. 1 and No. 2 | 2.4 | 3.14 | 3.62 | 4.05 | 3.83 | 4.43 | 4.95 | 4.45 | 5.14 | 5.74 |
| | | 3.0 | 2.80 | 3.24 | 3.62 | 3.43 | 3.96 | 4.43 | 3.98 | 4.60 | 5.14 |
| | | 3.6 | 2.56 | 2.96 | 3.31 | 3.13 | 3.61 | 4.04 | 3.63 | 4.19 | 4.69 |
| | | 4.2 | 2.37 | 2.74 | 3.06 | 2.90 | 3.35 | 3.74 | 3.36 | 3.88 | 4.34 |
| | | 4.8 | 2.22 | 2.56 | 2.86 | 2.71 | 3.13 | 3.50 | 3.15 | 3.63 | 4.06 |
| | | 5.4 | 2.09 | 2.41 | 2.70 | 2.56 | 2.95 | 3.30 | 2.97 | 3.42 | 3.83 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | Select Structural | 2.4 | 3.84 | 4.43 | 4.96 | 4.70 | 5.42 | 6.06 | 5.45 | 6.29 | 7.03 |
| | | 3.0 | 3.43 | 3.97 | 4.43 | 4.20 | 4.85 | 5.42 | 4.87 | 5.63 | 6.29 |
| | | 3.6 | 3.14 | 3.62 | 4.05 | 3.83 | 4.43 | 4.95 | 4.45 | 5.14 | 5.74 |
| | | 4.2 | 2.90 | 3.35 | 3.75 | 3.55 | 4.10 | 4.58 | 4.12 | 4.76 | 5.32 |
| | | 4.8 | 2.72 | 3.14 | 3.51 | 3.31 | 3.83 | 4.29 | 3.72 | 4.45 | 4.97 |
| | | 5.4 | 2.53 | 2.96 | 3.31 | 3.00 | 3.61 | 4.04 | 3.37 | 4.19 | 4.69 |
| | | 6.0 | 2.31 | 2.80 | 3.14 | 2.74 | 3.43 | 3.83 | 3.09 | 3.93 | 4.45 |
| | No. 1 and No. 2 | 2.4 | 3.25 | 3.75 | 4.19 | 3.97 | 4.59 | 5.13 | 4.61 | 5.32 | 5.95 |
| | | 3.0 | 2.90 | 3.35 | 3.75 | 3.55 | 4.10 | 4.59 | 4.12 | 4.76 | 5.32 |
| | | 3.6 | 2.65 | 3.06 | 3.42 | 3.24 | 3.74 | 4.19 | 3.76 | 4.34 | 4.86 |
| | | 4.2 | 2.45 | 2.83 | 3.17 | 3.00 | 3.47 | 3.88 | 3.48 | 4.02 | 4.50 |
| | | 4.8 | 2.30 | 2.65 | 2.96 | 2.81 | 3.24 | 3.63 | 3.26 | 3.76 | 4.21 |
| | | 5.4 | 2.17 | 2.50 | 2.80 | 2.65 | 3.06 | 3.42 | 3.07 | 3.55 | 3.97 |
| | | 6.0 | 2.05 | 2.37 | 2.65 | 2.51 | 2.90 | 3.24 | 2.91 | 3.37 | 3.76 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| Commercial Designation | Grade | Supported Length, mm ⁽⁴⁾⁽⁵⁾ | Maximum Span, m ⁽²⁾⁽³⁾ | | | | | | | | |
|--|-------------------|--|-----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | | Size of Built-up Beam, mm | | | | | | | | |
| | | | 3 – 38 x 184 | 4 – 38 x 184 | 5 – 38 x 184 | 3 – 38 x 235 | 4 – 38 x 235 | 5 – 38 x 235 | 3 – 38 x 286 | 4 – 38 x 286 | 5 – 38 x 286 |
| Northern Species (includes any Canadian species covered by the NLGA Standard Grading Rules) | Select Structural | 2.4 | 3.08 | 3.55 | 3.97 | 3.76 | 4.35 | 4.86 | 4.37 | 5.04 | 5.64 |
| | | 3.0 | 2.75 | 3.18 | 3.55 | 3.37 | 3.89 | 4.35 | 3.91 | 4.51 | 5.04 |
| | | 3.6 | 2.51 | 2.90 | 3.24 | 3.07 | 3.55 | 3.97 | 3.57 | 4.12 | 4.60 |
| | | 4.2 | 2.33 | 2.69 | 3.00 | 2.85 | 3.29 | 3.67 | 3.30 | 3.81 | 4.26 |
| | | 4.8 | 2.18 | 2.51 | 2.81 | 2.66 | 3.07 | 3.44 | 3.09 | 3.57 | 3.99 |
| | | 5.4 | 2.05 | 2.37 | 2.65 | 2.51 | 2.90 | 3.24 | 2.91 | 3.36 | 3.76 |
| | | 6.0 | 1.95 | 2.25 | 2.51 | 2.38 | 2.75 | 3.07 | 2.76 | 3.19 | 3.57 |
| | No. 1 and No. 2 | 2.4 | 2.61 | 3.01 | 3.36 | 3.19 | 3.68 | 4.11 | 3.70 | 4.27 | 4.77 |
| | | 3.0 | 2.33 | 2.69 | 3.01 | 2.85 | 3.29 | 3.68 | 3.31 | 3.82 | 4.27 |
| | | 3.6 | 2.13 | 2.46 | 2.75 | 2.60 | 3.00 | 3.36 | 3.02 | 3.49 | 3.90 |
| | | 4.2 | 1.97 | 2.27 | 2.54 | 2.41 | 2.78 | 3.11 | 2.80 | 3.23 | 3.61 |
| | | 4.8 | 1.84 | 2.13 | 2.38 | 2.25 | 2.60 | 2.91 | 2.61 | 3.02 | 3.38 |
| | | 5.4 | 1.74 | 2.01 | 2.24 | 2.12 | 2.45 | 2.74 | 2.47 | 2.85 | 3.18 |
| | | 6.0 | 1.65 | 1.90 | 2.13 | 2.02 | 2.33 | 2.60 | 2.34 | 2.70 | 3.02 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

Notes to Table A-8:

- (1) Spans apply only where the floors serve residential areas as described in Table 4.1.6.3., or the uniformly distributed *live load* on the floors does not exceed that specified for residential areas as described in Table 4.1.6.3.
- (2) Spans are clear spans between supports. For total span, add two bearing lengths.
- (3) Provide minimum 89 mm of bearing.
- (4) Supported length means half the sum of the joists spans on both sides of the beam.
- (5) Straight line interpolation may be used for other supported lengths.

Table A-9**Maximum Spans for Built-up Floor Beams Supporting not more than Two Floors⁽¹⁾**

Forming Part of Sentence 9.23.4.2.(3)

| Commercial Designation | Grade | Supported Length, mm ⁽⁴⁾⁽⁵⁾ | Maximum Span, m ⁽²⁾⁽³⁾ | | | | | | | | |
|---|-------------------|--|-----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | | Size of Built-up Beam, mm | | | | | | | | |
| | | | 3 – 38 x 184 | 4 – 38 x 184 | 5 – 38 x 184 | 3 – 38 x 235 | 4 – 38 x 235 | 5 – 38 x 235 | 3 – 38 x 286 | 4 – 38 x 286 | 5 – 38 x 286 |
| Douglas Fir - Larch (includes Douglas Fir and Western larch) | Select Structural | 2.4 | 2.91 | 3.36 | 3.76 | 3.56 | 4.11 | 4.60 | 4.13 | 4.77 | 5.34 |
| | | 3.0 | 2.61 | 3.01 | 3.36 | 3.19 | 3.68 | 4.11 | 3.70 | 4.27 | 4.77 |
| | | 3.6 | 2.38 | 2.75 | 3.07 | 2.87 | 3.36 | 3.76 | 3.23 | 3.90 | 4.36 |
| | | 4.2 | 2.13 | 2.54 | 2.84 | 2.53 | 3.11 | 3.48 | 2.85 | 3.61 | 4.04 |
| | | 4.8 | 1.91 | 2.38 | 2.66 | 2.27 | 2.87 | 3.25 | 2.56 | 3.23 | 3.77 |
| | | 5.4 | 1.74 | 2.19 | 2.51 | 2.07 | 2.60 | 3.07 | 2.34 | 2.93 | 3.52 |
| | | 6.0 | 1.60 | 2.01 | 2.38 | 1.91 | 2.39 | 2.87 | 2.17 | 2.70 | 3.23 |
| | No. 1 and No. 2 | 2.4 | 2.27 | 2.62 | 2.93 | 2.77 | 3.20 | 3.58 | 3.22 | 3.72 | 4.16 |
| | | 3.0 | 2.03 | 2.34 | 2.62 | 2.48 | 2.86 | 3.20 | 2.88 | 3.32 | 3.72 |
| | | 3.6 | 1.85 | 2.14 | 2.39 | 2.26 | 2.62 | 2.92 | 2.63 | 3.03 | 3.39 |
| | | 4.2 | 1.71 | 1.98 | 2.21 | 2.10 | 2.42 | 2.71 | 2.43 | 2.81 | 3.14 |
| | | 4.8 | 1.60 | 1.85 | 2.07 | 1.96 | 2.26 | 2.53 | 2.28 | 2.63 | 2.94 |
| | | 5.4 | 1.51 | 1.75 | 1.95 | 1.85 | 2.14 | 2.39 | 2.15 | 2.48 | 2.77 |
| | | 6.0 | 1.43 | 1.66 | 1.85 | 1.75 | 2.03 | 2.26 | 2.04 | 2.35 | 2.63 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| Commercial Designation | Grade | Supported Length, mm ⁽⁴⁾⁽⁵⁾ | Maximum Span, m ^{(2) (3)} | | | | | | | | |
|--|-------------------|--|------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | | | Size of Built-up Beam, mm | | | | | | | | |
| | | | 3 – 38 x 184 | 4 – 38 x 184 | 5 – 38 x 184 | 3 – 38 x 235 | 4 – 38 x 235 | 5 – 38 x 235 | 3 – 38 x 286 | 4 – 38 x 286 | 5 – 38 x 286 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | Select Structural | 2.4 | 2.87 | 3.31 | 3.70 | 3.42 | 4.05 | 4.53 | 3.83 | 4.70 | 5.26 |
| | | 3.0 | 2.38 | 2.96 | 3.31 | 2.83 | 3.61 | 4.05 | 3.18 | 4.05 | 4.70 |
| | | 3.6 | 2.05 | 2.61 | 3.02 | 2.43 | 3.09 | 3.70 | 2.75 | 3.47 | 4.19 |
| | | 4.2 | 1.81 | 2.29 | 2.77 | 2.15 | 2.72 | 3.28 | 2.44 | 3.06 | 3.68 |
| | | 4.8 | 1.63 | 2.05 | 2.47 | 1.94 | 2.43 | 2.93 | 2.20 | 2.75 | 3.29 |
| | | 5.4 | 1.49 | 1.86 | 2.23 | 1.78 | 2.22 | 2.65 | 2.02 | 2.50 | 2.99 |
| | | 6.0 | 1.37 | 1.71 | 2.05 | 1.65 | 2.04 | 2.43 | 1.88 | 2.31 | 2.75 |
| | No. 1 and No. 2 | 2.4 | 2.38 | 2.75 | 3.07 | 2.91 | 3.36 | 3.76 | 3.38 | 3.90 | 4.36 |
| | | 3.0 | 2.13 | 2.46 | 2.75 | 2.60 | 3.00 | 3.36 | 3.02 | 3.49 | 3.90 |
| | | 3.6 | 1.94 | 2.24 | 2.51 | 2.38 | 2.74 | 3.07 | 2.75 | 3.18 | 3.56 |
| | | 4.2 | 1.80 | 2.08 | 2.32 | 2.15 | 2.54 | 2.84 | 2.44 | 2.95 | 3.29 |
| | | 4.8 | 1.63 | 1.94 | 2.17 | 1.94 | 2.38 | 2.66 | 2.20 | 2.75 | 3.08 |
| | | 5.4 | 1.49 | 1.83 | 2.05 | 1.78 | 2.22 | 2.50 | 2.02 | 2.50 | 2.91 |
| | | 6.0 | 1.37 | 1.71 | 1.94 | 1.65 | 2.04 | 2.38 | 1.88 | 2.31 | 2.75 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | Select Structural | 2.4 | 2.91 | 3.36 | 3.76 | 3.56 | 4.11 | 4.60 | 4.13 | 4.77 | 5.34 |
| | | 3.0 | 2.61 | 3.01 | 3.36 | 3.09 | 3.68 | 4.11 | 3.47 | 4.27 | 4.77 |
| | | 3.6 | 2.23 | 2.75 | 3.07 | 2.65 | 3.36 | 3.76 | 2.99 | 3.79 | 4.36 |
| | | 4.2 | 1.97 | 2.50 | 2.84 | 2.34 | 2.96 | 3.48 | 2.64 | 3.33 | 4.02 |
| | | 4.8 | 1.77 | 2.23 | 2.66 | 2.11 | 2.65 | 3.20 | 2.38 | 2.99 | 3.59 |
| | | 5.4 | 1.61 | 2.03 | 2.44 | 1.93 | 2.41 | 2.90 | 2.18 | 2.72 | 3.26 |
| | | 6.0 | 1.49 | 1.86 | 2.23 | 1.78 | 2.22 | 2.65 | 2.02 | 2.50 | 2.99 |
| | No. 1 and No. 2 | 2.4 | 2.46 | 2.85 | 3.18 | 3.01 | 3.48 | 3.89 | 3.50 | 4.04 | 4.51 |
| | | 3.0 | 2.20 | 2.55 | 2.85 | 2.70 | 3.11 | 3.48 | 3.13 | 3.61 | 4.04 |
| | | 3.6 | 2.01 | 2.32 | 2.60 | 2.46 | 2.84 | 3.18 | 2.85 | 3.30 | 3.69 |
| | | 4.2 | 1.86 | 2.15 | 2.40 | 2.28 | 2.63 | 2.94 | 2.64 | 3.05 | 3.41 |
| | | 4.8 | 1.74 | 2.01 | 2.25 | 2.11 | 2.46 | 2.75 | 2.38 | 2.85 | 3.19 |
| | | 5.4 | 1.61 | 1.90 | 2.12 | 1.93 | 2.32 | 2.59 | 2.18 | 2.69 | 3.01 |
| | | 6.0 | 1.49 | 1.80 | 2.01 | 1.78 | 2.20 | 2.46 | 2.02 | 2.50 | 2.85 |
| Northern Species (includes any Canadian species covered by the NLGA Standard Grading Rules) | Select Structural | 2.4 | 2.34 | 2.70 | 3.02 | 2.86 | 3.30 | 3.69 | 3.31 | 3.83 | 4.28 |
| | | 3.0 | 2.09 | 2.41 | 2.70 | 2.55 | 2.95 | 3.30 | 2.96 | 3.42 | 3.83 |
| | | 3.6 | 1.91 | 2.20 | 2.46 | 2.33 | 2.69 | 3.01 | 2.71 | 3.12 | 3.49 |
| | | 4.2 | 1.77 | 2.04 | 2.28 | 2.15 | 2.49 | 2.79 | 2.44 | 2.89 | 3.23 |
| | | 4.8 | 1.63 | 1.91 | 2.13 | 1.94 | 2.33 | 2.61 | 2.20 | 2.71 | 3.03 |
| | | 5.4 | 1.49 | 1.80 | 2.01 | 1.78 | 2.20 | 2.46 | 2.02 | 2.50 | 2.85 |
| | | 6.0 | 1.37 | 1.71 | 1.91 | 1.65 | 2.04 | 2.33 | 1.88 | 2.31 | 2.71 |
| | No. 1 and No. 2 | 2.4 | 1.98 | 2.28 | 2.55 | 2.42 | 2.79 | 3.12 | 2.81 | 3.24 | 3.62 |
| | | 3.0 | 1.77 | 2.04 | 2.28 | 2.16 | 2.50 | 2.79 | 2.51 | 2.90 | 3.24 |
| | | 3.6 | 1.61 | 1.86 | 2.08 | 1.97 | 2.28 | 2.55 | 2.29 | 2.65 | 2.96 |
| | | 4.2 | 1.49 | 1.73 | 1.93 | 1.83 | 2.11 | 2.36 | 2.12 | 2.45 | 2.74 |
| | | 4.8 | 1.40 | 1.61 | 1.81 | 1.71 | 1.97 | 2.21 | 1.98 | 2.29 | 2.56 |
| | | 5.4 | 1.32 | 1.52 | 1.70 | 1.61 | 1.86 | 2.08 | 1.87 | 2.16 | 2.42 |
| | | 6.0 | 1.25 | 1.44 | 1.61 | 1.53 | 1.77 | 1.97 | 1.77 | 2.05 | 2.29 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

Notes to Table A-9:

- (1) Spans apply only where the floors serve residential areas as described in Table 4.1.6.A., or the uniformly distributed *live load* on the floors does not exceed that specified for residential areas as described in Table 4.1.6.A.
- (2) Spans are clear spans between supports. For total span, add two bearing lengths.
- (3) Provide minimum 89 mm of bearing.
- (4) Supported length means half the sum of the joists spans on both sides of the beam.
- (5) Straight line interpolation may be used for other supported lengths.

Table A-10

Maximum Spans for Built-up Floor Beams Supporting not more than Three Floors⁽¹⁾

Forming Part of Sentence 9.23.4.2.(3)

| Commercial Designation | Grade | Supported Length, mm ⁽⁴⁾⁽⁵⁾ | Maximum Span, m ⁽²⁾⁽³⁾ | | | | | | | | |
|--|-------------------|--|-----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | | | Size of Built-up Beam, mm | | | | | | | | |
| | | | 3- 38 x 184 | 4- 38 x 184 | 5- 38 x 184 | 3- 38 x 235 | 4- 38 x 235 | 5- 38 x 235 | 3- 38 x 286 | 4- 38 x 286 | 5- 38 x 286 |
| Douglas Fir - Larch (includes Douglas Fir and Western larch) | Select Structural | 2.4 | 2.44 | 2.82 | 3.15 | 2.99 | 3.45 | 3.85 | 3.37 | 4.00 | 4.47 |
| | | 3.0 | 2.10 | 2.52 | 2.82 | 2.49 | 3.08 | 3.45 | 2.81 | 3.56 | 4.00 |
| | | 3.6 | 1.81 | 2.29 | 2.57 | 2.16 | 2.72 | 3.15 | 2.44 | 3.06 | 3.65 |
| | | 4.2 | 1.60 | 2.01 | 2.38 | 1.92 | 2.40 | 2.88 | 2.17 | 2.70 | 3.24 |
| | | 4.8 | 1.45 | 1.81 | 2.17 | 1.73 | 2.16 | 2.58 | 1.97 | 2.44 | 2.90 |
| | | 5.4 | 1.33 | 1.65 | 1.97 | 1.59 | 1.97 | 2.34 | 1.82 | 2.23 | 2.64 |
| | | 6.0 | 1.23 | 1.52 | 1.81 | 1.48 | 1.82 | 2.16 | 1.69 | 2.06 | 2.44 |
| | No. 1 and No. 2 | 2.4 | 1.90 | 2.19 | 2.45 | 2.32 | 2.68 | 3.00 | 2.70 | 3.11 | 3.48 |
| | | 3.0 | 1.70 | 1.96 | 2.19 | 2.08 | 2.40 | 2.68 | 2.41 | 2.79 | 3.11 |
| | | 3.6 | 1.55 | 1.79 | 2.00 | 1.90 | 2.19 | 2.45 | 2.20 | 2.54 | 2.84 |
| | | 4.2 | 1.44 | 1.66 | 1.86 | 1.76 | 2.03 | 2.27 | 2.04 | 2.35 | 2.63 |
| | | 4.8 | 1.34 | 1.55 | 1.74 | 1.64 | 1.90 | 2.12 | 1.91 | 2.20 | 2.46 |
| | | 5.4 | 1.27 | 1.46 | 1.64 | 1.55 | 1.79 | 2.00 | 1.80 | 2.08 | 2.32 |
| | | 6.0 | 1.20 | 1.39 | 1.55 | 1.47 | 1.70 | 1.90 | 1.69 | 1.97 | 2.20 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | Select Structural | 2.4 | 2.14 | 2.72 | 3.10 | 2.54 | 3.23 | 3.80 | 2.86 | 3.62 | 4.39 |
| | | 3.0 | 1.78 | 2.25 | 2.72 | 2.13 | 2.68 | 3.23 | 2.40 | 3.01 | 3.62 |
| | | 3.6 | 1.55 | 1.94 | 2.33 | 1.85 | 2.31 | 2.77 | 2.10 | 2.61 | 3.12 |
| | | 4.2 | 1.38 | 1.71 | 2.05 | 1.65 | 2.05 | 2.44 | 1.88 | 2.32 | 2.75 |
| | | 4.8 | 1.25 | 1.55 | 1.84 | 1.50 | 1.85 | 2.19 | 1.72 | 2.10 | 2.48 |
| | | 5.4 | 1.15 | 1.42 | 1.68 | 1.39 | 1.70 | 2.00 | 1.59 | 1.93 | 2.27 |
| | | 6.0 | 1.07 | 1.31 | 1.55 | 1.30 | 1.57 | 1.85 | 1.49 | 1.79 | 2.10 |
| | No. 1 and No. 2 | 2.4 | 1.99 | 2.30 | 2.57 | 2.44 | 2.81 | 3.15 | 2.83 | 3.27 | 3.65 |
| | | 3.0 | 1.78 | 2.06 | 2.30 | 2.13 | 2.52 | 2.81 | 2.40 | 2.92 | 3.27 |
| | | 3.6 | 1.55 | 1.88 | 2.10 | 1.85 | 2.30 | 2.57 | 2.10 | 2.61 | 2.98 |
| | | 4.2 | 1.38 | 1.71 | 1.95 | 1.65 | 2.05 | 2.38 | 1.88 | 2.32 | 2.75 |
| | | 4.8 | 1.25 | 1.55 | 1.82 | 1.50 | 1.85 | 2.19 | 1.72 | 2.10 | 2.48 |
| | | 5.4 | 1.15 | 1.42 | 1.68 | 1.39 | 1.70 | 2.00 | 1.59 | 1.93 | 2.27 |
| | | 6.0 | 1.07 | 1.31 | 1.55 | 1.30 | 1.57 | 1.85 | 1.49 | 1.79 | 2.10 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | Select Structural | 2.4 | 2.33 | 2.82 | 3.15 | 2.77 | 3.45 | 3.85 | 3.12 | 3.96 | 4.47 |
| | | 3.0 | 1.94 | 2.46 | 2.82 | 2.31 | 2.92 | 3.45 | 2.61 | 3.29 | 3.96 |
| | | 3.6 | 1.68 | 2.11 | 2.55 | 2.00 | 2.51 | 3.02 | 2.27 | 2.83 | 3.40 |
| | | 4.2 | 1.49 | 1.86 | 2.24 | 1.78 | 2.22 | 2.66 | 2.03 | 2.51 | 2.99 |
| | | 4.8 | 1.35 | 1.68 | 2.00 | 1.62 | 2.00 | 2.39 | 1.84 | 2.27 | 2.69 |
| | | 5.4 | 1.24 | 1.53 | 1.82 | 1.49 | 1.83 | 2.17 | 1.70 | 2.08 | 2.46 |
| | | 6.0 | 1.15 | 1.42 | 1.68 | 1.39 | 1.70 | 2.00 | 1.59 | 1.93 | 2.27 |
| | No. 1 and No. 2 | 2.4 | 2.06 | 2.38 | 2.67 | 2.52 | 2.92 | 3.26 | 2.93 | 3.38 | 3.78 |
| | | 3.0 | 1.85 | 2.13 | 2.38 | 2.26 | 2.61 | 2.92 | 2.61 | 3.03 | 3.38 |
| | | 3.6 | 1.68 | 1.95 | 2.18 | 2.00 | 2.38 | 2.66 | 2.27 | 2.76 | 3.09 |
| | | 4.2 | 1.49 | 1.80 | 2.02 | 1.78 | 2.20 | 2.46 | 2.03 | 2.51 | 2.86 |
| | | 4.8 | 1.35 | 1.68 | 1.88 | 1.62 | 2.00 | 2.30 | 1.84 | 2.27 | 2.67 |
| | | 5.4 | 1.24 | 1.53 | 1.78 | 1.49 | 1.83 | 2.17 | 1.70 | 2.08 | 2.46 |
| | | 6.0 | 1.15 | 1.42 | 1.68 | 1.39 | 1.70 | 2.00 | 1.59 | 1.93 | 2.27 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| Commercial Designation | Grade | Supported Length, mm ⁽⁴⁾⁽⁵⁾ | Maximum Span, m ⁽²⁾⁽³⁾ | | | | | | | | |
|---|-------------------|--|-----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | | | Size of Built-up Beam, mm | | | | | | | | |
| | | | 3- 38 x 184 | 4- 38 x 184 | 5- 38 x 184 | 3- 38 x 235 | 4- 38 x 235 | 5- 38 x 235 | 3- 38 x 286 | 4- 38 x 286 | 5- 38 x 286 |
| Northern Species (includes any Canadian species covered by the NLGA Standard Grading Rules) | Select Structural | 2.4 | 1.96 | 2.26 | 2.53 | 2.39 | 2.76 | 3.09 | 2.78 | 3.21 | 3.58 |
| | | 3.0 | 1.75 | 2.02 | 2.26 | 3.13 | 2.47 | 2.76 | 2.40 | 2.87 | 3.21 |
| | | 3.6 | 1.55 | 1.85 | 2.06 | 1.85 | 2.26 | 2.52 | 2.10 | 2.61 | 2.93 |
| | | 4.2 | 1.38 | 1.71 | 1.91 | 1.65 | 2.05 | 2.34 | 1.88 | 2.32 | 2.71 |
| | | 4.8 | 1.25 | 1.55 | 1.79 | 1.50 | 1.85 | 2.18 | 1.72 | 2.10 | 2.48 |
| | | 5.4 | 1.15 | 1.42 | 1.68 | 1.39 | 1.70 | 2.00 | 1.59 | 1.93 | 2.27 |
| | | 6.0 | 1.07 | 1.31 | 1.55 | 1.30 | 1.57 | 1.85 | 1.49 | 1.79 | 2.10 |
| | No. 1 and No.2 | 2.4 | 1.66 | 1.91 | 2.14 | 2.03 | 2.34 | 2.62 | 2.35 | 2.72 | 3.04 |
| | | 3.0 | 1.48 | 1.71 | 1.91 | 1.81 | 2.09 | 2.34 | 2.10 | 2.43 | 2.72 |
| | | 3.6 | 1.35 | 1.56 | 1.75 | 1.65 | 1.91 | 2.14 | 1.92 | 2.22 | 2.48 |
| | | 4.2 | 1.25 | 1.45 | 1.62 | 1.53 | 1.77 | 1.98 | 1.78 | 2.05 | 2.29 |
| | | 4.8 | 1.17 | 1.35 | 1.51 | 1.43 | 1.65 | 1.85 | 1.66 | 1.92 | 2.15 |
| | | 5.4 | 1.10 | 1.28 | 1.43 | 1.35 | 1.56 | 1.74 | 1.57 | 1.81 | 2.02 |
| | | 6.0 | 1.05 | 1.21 | 1.35 | 1.28 | 1.48 | 1.65 | 1.49 | 1.72 | 1.92 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

Notes to Table A-10:

- (1) Spans apply only where the floors serve residential areas as described in Table 4.1.6.3., or the uniformly distributed *live load* on the floors does not exceed that specified for residential areas as described in Table 4.1.6.3.
- (2) Spans are clear spans between supports. For total span, add two bearing lengths.
- (3) Provide minimum 89 mm of bearing.
- (4) Supported length means half the sum of the joists spans on both sides of the beam.
- (5) Straight line interpolation may be used for other supported lengths.

Table A-11**Maximum Spans for Glue-Laminated Floor Beams - 20f-E Grade⁽¹⁾**

Forming Part of Sentence 9.23.4.2.(3)

| Number of Storeys Supported | Beam Width, mm | Supported Length, m ⁽⁶⁾⁽⁷⁾ | Maximum Span, m ^{(2) (3) (4) (5)} | | | | | | |
|-----------------------------|----------------|---------------------------------------|--|------|------|------|------|-------|-------|
| | | | Beam Depth, mm | | | | | | |
| | | | 228 | 266 | 304 | 342 | 380 | 418 | 456 |
| 1 | 80 | 2.4 | 4.32 | 5.04 | 5.76 | 6.48 | 7.20 | 7.92 | 8.64 |
| | | 3.0 | 3.87 | 4.51 | 5.15 | 5.80 | 6.44 | 7.09 | 7.73 |
| | | 3.6 | 3.53 | 4.12 | 4.70 | 5.29 | 5.88 | 6.47 | 7.06 |
| | | 4.2 | 3.27 | 3.81 | 4.36 | 4.90 | 5.44 | 5.99 | 6.53 |
| | | 4.8 | 3.06 | 3.57 | 4.07 | 4.58 | 5.09 | 5.60 | 6.11 |
| | | 5.4 | 2.88 | 3.36 | 3.84 | 4.32 | 4.80 | 5.28 | 5.76 |
| | | 6.0 | 2.73 | 3.19 | 3.64 | 4.10 | 4.56 | 5.01 | 5.47 |
| | 130 | 2.4 | 5.51 | 6.43 | 7.35 | 8.26 | 9.18 | 10.10 | 11.02 |
| | | 3.0 | 4.93 | 5.75 | 6.57 | 7.39 | 8.21 | 9.03 | 9.86 |
| | | 3.6 | 4.50 | 5.25 | 6.00 | 6.75 | 7.50 | 8.25 | 9.00 |
| | | 4.2 | 4.16 | 4.86 | 5.55 | 6.25 | 6.94 | 7.64 | 8.33 |
| | | 4.8 | 3.90 | 4.54 | 5.19 | 5.84 | 6.49 | 7.14 | 7.79 |
| | | 5.4 | 3.67 | 4.28 | 4.90 | 5.51 | 6.12 | 6.73 | 7.35 |
| | | 6.0 | 3.48 | 4.07 | 4.65 | 5.23 | 5.81 | 6.39 | 6.97 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

| Number of Storeys Supported | Beam Width, mm | Supported Length, m ⁽⁶⁾⁽⁷⁾ | Maximum Span, m ^{(2) (3) (4) (5)} | | | | | | |
|-----------------------------|----------------|---------------------------------------|--|------|------|------|------|------|------|
| | | | Beam Depth, mm | | | | | | |
| | | | 228 | 266 | 304 | 342 | 380 | 418 | 456 |
| 2 | 80 | 2.4 | 3.28 | 3.83 | 4.37 | 4.92 | 5.47 | 6.01 | 6.56 |
| | | 3.0 | 2.93 | 3.42 | 3.91 | 4.40 | 4.89 | 5.38 | 5.87 |
| | | 3.6 | 2.68 | 3.12 | 3.57 | 4.02 | 4.46 | 4.91 | 5.36 |
| | | 4.2 | 2.48 | 2.89 | 3.31 | 3.72 | 4.13 | 4.54 | 4.96 |
| | | 4.8 | 2.32 | 2.71 | 3.09 | 3.48 | 3.86 | 4.25 | 4.64 |
| | | 5.4 | 2.19 | 2.55 | 2.91 | 3.28 | 3.64 | 4.01 | 4.37 |
| | | 6.0 | 2.07 | 2.42 | 2.77 | 3.11 | 3.46 | 3.80 | 4.15 |
| | 130 | 2.4 | 4.18 | 4.88 | 5.57 | 6.27 | 6.97 | 7.66 | 8.36 |
| | | 3.0 | 3.74 | 4.36 | 4.99 | 5.61 | 6.23 | 6.85 | 7.48 |
| | | 3.6 | 3.41 | 3.98 | 4.55 | 5.12 | 5.69 | 6.26 | 6.83 |
| | | 4.2 | 3.16 | 3.69 | 4.21 | 4.74 | 5.27 | 5.79 | 6.32 |
| | | 4.8 | 2.96 | 3.45 | 3.94 | 4.43 | 4.93 | 5.42 | 5.91 |
| | | 5.4 | 2.79 | 3.25 | 3.72 | 4.18 | 4.64 | 5.11 | 5.57 |
| | | 6.0 | 2.64 | 3.08 | 3.53 | 3.97 | 4.41 | 4.85 | 5.29 |
| 3 | 80 | 2.4 | 2.75 | 3.21 | 3.66 | 4.12 | 4.58 | 5.04 | 5.50 |
| | | 3.0 | 2.46 | 2.87 | 3.28 | 3.69 | 4.10 | 4.51 | 4.92 |
| | | 3.6 | 2.24 | 2.62 | 2.99 | 3.37 | 3.74 | 4.11 | 4.49 |
| | | 4.2 | 2.08 | 2.42 | 2.77 | 3.12 | 3.46 | 3.81 | 4.15 |
| | | 4.8 | 1.94 | 2.27 | 2.59 | 2.91 | 3.24 | 3.56 | 3.89 |
| | | 5.4 | 1.83 | 2.14 | 2.44 | 2.75 | 3.05 | 3.36 | 3.66 |
| | | 6.0 | 1.74 | 2.03 | 2.32 | 2.61 | 2.90 | 3.19 | 3.48 |
| | 130 | 2.4 | 3.50 | 4.09 | 4.67 | 5.25 | 5.84 | 6.42 | 7.01 |
| | | 3.0 | 3.13 | 3.66 | 4.18 | 4.70 | 5.22 | 5.74 | 6.27 |
| | | 3.6 | 2.86 | 3.34 | 3.81 | 4.29 | 4.77 | 5.24 | 5.72 |
| | | 4.2 | 2.65 | 3.09 | 3.53 | 3.97 | 4.41 | 4.85 | 5.30 |
| | | 4.8 | 2.48 | 2.89 | 3.30 | 3.72 | 4.13 | 4.54 | 4.95 |
| | | 5.4 | 2.34 | 2.72 | 3.11 | 3.50 | 3.89 | 4.28 | 4.67 |
| | | 6.0 | 2.22 | 2.58 | 2.95 | 3.32 | 3.69 | 4.06 | 4.43 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Notes to Table A-11:

- (1) Spans apply only where the floors serve residential areas as described in Table 4.1.6.3., or the uniformly distributed *live load* on the floor does not exceed that specified for residential areas as described in Table 4.1.6.3.
- (2) Spans are valid for glued-laminated timber conforming to CAN/CSA-O122-M and CAN/CSA-O177-M.
- (3) Spans are clear spans between supports. For total span, add two bearing lengths.
- (4) Provide a minimum bearing length of 89 mm. (Alternatively, the bearing length may be designed in accordance with Part 4.)
- (5) Top edge of beam assumed to be fully laterally supported by joists.
- (6) Supported length means half the sum of the joist spans on both sides of the beam.
- (7) Straight line interpolation may be used for other supported lengths.

Table A-12

Maximum Spans for Built-up Roof Ridge Beams - No. 1 or No. 2 Grade

Forming Part of Sentence 9.23.4.2.(4)

| Commercial Designation | Beam Size, mm | Maximum Span, m ^{(1) (2)} | | | | |
|---|------------------|------------------------------------|------|------|------|------|
| | | Specified Snow Load, kPa | | | | |
| | | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 |
| Douglas Fir - Larch (includes Douglas Fir and Western Larch) | 3 - 38 x 184 | 2.42 | 2.08 | 1.86 | 1.69 | 1.56 |
| | 4 - 38 x 184 | 2.80 | 2.41 | 2.14 | 1.95 | 1.80 |
| | 5 - 38 x 184 | 3.13 | 2.89 | 2.40 | 2.18 | 2.01 |
| | 3 - 38 x 235 | 2.95 | 2.55 | 2.27 | 2.06 | 1.91 |
| | 4 - 38 x 235 | 3.42 | 2.94 | 2.62 | 2.38 | 2.20 |
| | 5 - 38 x 235 | 3.83 | 3.29 | 2.93 | 2.67 | 2.46 |
| | 3 - 38 x 286 | 3.44 | 2.96 | 2.63 | 2.40 | 2.21 |
| | 4 - 38 x 286 | 3.97 | 3.41 | 3.04 | 2.77 | 2.56 |
| | 5 - 38 x 286 | 4.44 | 3.82 | 3.40 | 3.09 | 2.86 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | 3 - 38 x 184 | 2.54 | 2.18 | 1.95 | 1.77 | 1.64 |
| | 4 - 38 x 184 | 2.93 | 2.52 | 2.25 | 2.05 | 1.89 |
| | 5 - 38 x 184 | 3.28 | 2.82 | 2.51 | 2.29 | 2.11 |
| | 3 - 38 x 235 | 3.11 | 2.67 | 2.38 | 2.17 | 2.00 |
| | 4 - 38 x 235 | 3.59 | 3.08 | 2.75 | 2.50 | 2.31 |
| | 5 - 38 x 235 | 4.01 | 3.45 | 3.07 | 2.80 | 2.58 |
| | 3 - 38 x 286 | 3.61 | 3.10 | 2.76 | 2.51 | 2.32 |
| | 4 - 38 x 286 | 4.16 | 3.58 | 3.19 | 2.90 | 2.68 |
| | 5 - 38 x 286 | 4.66 | 4.00 | 3.56 | 3.24 | 3.00 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | 3 - 38 x 184 | 2.63 | 2.26 | 2.02 | 1.83 | 1.69 |
| | 4 - 38 x 184 | 3.04 | 2.61 | 2.33 | 2.12 | 1.96 |
| | 5 - 38 x 184 | 3.40 | 2.92 | 2.60 | 2.37 | 2.19 |
| | 3 - 38 x 235 | 3.22 | 2.77 | 2.46 | 2.24 | 2.07 |
| | 4 - 38 x 235 | 3.72 | 3.20 | 2.85 | 2.59 | 2.39 |
| | 5 - 38 x 235 | 4.16 | 3.57 | 3.18 | 2.90 | 2.68 |
| | 3 - 38 x 286 | 3.73 | 3.21 | 2.86 | 2.60 | 2.40 |
| | 4 - 38 x 286 | 4.31 | 3.71 | 3.30 | 3.01 | 2.78 |
| | 5 - 38 x 286 | 4.82 | 4.15 | 3.69 | 3.36 | 3.10 |
| Northern Species (includes any Canadian species covered by the NLGA Standard Grading Rules) | 3 - 38 x 184 | 2.11 | 1.82 | 1.62 | 1.47 | 1.36 |
| | 4 - 38 x 184 | 2.44 | 2.10 | 1.87 | 1.70 | 1.57 |
| | 5 - 38 x 184 | 2.73 | 2.34 | 2.08 | 1.90 | 1.76 |
| | 3 - 38 x 235 | 2.58 | 2.22 | 1.98 | 1.80 | 1.66 |
| | 4 - 38 x 235 | 2.98 | 2.56 | 2.28 | 2.08 | 1.92 |
| | 5 - 38 x 235 | 3.33 | 2.87 | 2.55 | 2.32 | 2.15 |
| | 3 - 38 x 286 | 3.00 | 2.58 | 2.29 | 2.09 | 1.93 |
| | 4 - 38 x 286 | 3.46 | 2.98 | 2.65 | 2.41 | 2.23 |
| | 5 - 38 x 286 | 3.87 | 3.33 | 2.96 | 2.70 | 2.49 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Notes to Table A-12:

- (1) The spans are calculated based on a maximum supported length of 4.9 m where supported length means half the sum of the rafter, joist or truss span on both sides of the beam. Spans may be increased by 5% for supported lengths not more than 4.3 m, or by 10% for supported lengths not more than 3.7 m.
- (2) Provide minimum 89 mm bearing.

Table A-13

**Maximum Spans for Douglas Fir - Larch Lintels - No. 1 or No. 2 Grade
Non-Structural Sheathing**

Forming Part of Sentences 9.23.12.3.(1) and (3)

| Lintel Supporting | Lintel Size, mm ⁽⁴⁾ | Maximum Span, m ^{(1) (2) (3)} | | | | | |
|---|---|--|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| | | Exterior Walls | | | | | Interior Walls |
| | | Specified Snow Load, kPa | | | | | |
| | | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | |
| Limited attic storage and ceiling | 2 - 38 x 89 2 - 38 x 140 2 - 38 x 184 2 - 38 x 235 2 - 38 x 286 | This Area Intentionally Left Blank | | | | | 1.25 1.78 2.17 2.65 3.08 |
| Roof and ceiling only | 2 - 38 x 89 2 - 38 x 140 2 - 38 x 184 2 - 38 x 235 2 - 38 x 286 | 1.25 1.78 2.17 2.65 3.08 | 1.07 1.53 1.86 2.28 2.64 | 0.96 1.36 1.66 2.03 2.35 | 0.87 1.24 1.51 1.85 2.14 | 0.80 1.15 1.40 1.71 1.98 | 0.87 1.24 1.51 1.85 2.14 |
| Roof, ceiling and 1 storey ⁽⁵⁾ | 2 - 38 x 89 2 - 38 x 140 2 - 38 x 184 2 - 38 x 235 2 - 38 x 286 | 0.96 1.37 1.67 2.04 2.37 | 0.88 1.26 1.53 1.88 2.18 | 0.82 1.17 1.42 1.74 2.02 | 0.77 1.10 1.34 1.63 1.90 | 0.73 1.04 1.26 1.54 1.79 | 0.68 0.97 1.18 1.44 1.67 |
| Roof, ceiling and 2 storeys ⁽⁵⁾ | 2 - 38 x 89 2 - 38 x 140 2 - 38 x 184 2 - 38 x 235 2 - 38 x 286 | 0.86 1.23 1.50 1.84 2.13 | 0.81 1.16 1.41 1.72 2.00 | 0.77 1.09 1.33 1.63 1.89 | 0.73 1.04 1.27 1.55 1.80 | 0.70 0.99 1.21 1.48 1.72 | 0.61 0.87 1.06 1.30 1.51 |
| Roof, ceiling and 3 storeys ⁽⁵⁾ | 2 - 38 x 89 2 - 38 x 140 2 - 38 x 184 2 - 38 x 235 2 - 38 x 286 | 0.81 1.15 1.40 1.71 1.99 | 0.77 1.10 1.33 1.63 1.89 | 0.73 1.05 1.28 1.56 1.81 | 0.71 1.01 1.22 1.50 1.74 | 0.68 0.97 1.18 1.44 1.67 | 0.57 0.82 1.00 1.22 1.41 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Notes to Table A-13:

- (1) Spans are calculated based on a maximum supported joist or rafter length of 4.9 m and a maximum supported truss length of 9.8 m. Spans may be increased by 5% for supported lengths not more than 4.3 m, or by 10% for supported lengths not more than 3.7 m. Supported length means half the span of the longest supported member.
- (2) If floor joists span the full width of the *building* without support, lintel spans shall be reduced by 15% for Roof, ceiling and one *storey*, by 20% for Roof, ceiling and two *storeys*, and by 25% for Roof, ceiling and three *storeys*.
- (3) For ends of lintels fully supported by the wall, provide minimum 38 mm of bearing for lintel spans up to 3 m, or minimum 76 mm or bearing for lintel spans greater than 3 m.
- (4) A single piece of 89 mm thick lumber may be used in lieu of 2 pieces of 38 mm thick lumber on edge.
- (5) Spans apply only where the floors serve residential areas as described in Table 4.1.6.3., or the uniformly distributed *live load* on the floor does not exceed that specified for residential areas as described in Table 4.1.6.3.

Table A-14

**Maximum Spans for Douglas Fir - Larch Lintels - No. 1 or No. 2 Grade
Structural Sheathing⁽¹⁾**

Forming Part of Sentences 9.23.12.3.(1) and (3)

| Lintel Supporting | Lintel Size, mm ⁽⁵⁾ | Maximum Span, m ⁽²⁾⁽³⁾⁽⁴⁾ | | | | |
|--|-----------------------------------|--------------------------------------|------|------|------|------|
| | | Exterior Walls | | | | |
| | | Specified Snow Load, kPa | | | | |
| | | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 |
| Roof and ceiling only | 2 - 38 x 89 | 1.46 | 1.25 | 1.12 | 1.02 | 0.94 |
| | 2 - 38 x 140 | 2.08 | 1.79 | 1.59 | 1.45 | 1.34 |
| | 2 - 38 x 184 | 2.53 | 2.18 | 1.94 | 1.76 | 1.63 |
| | 2 - 38 x 235 | 3.09 | 2.66 | 2.37 | 2.16 | 1.99 |
| | 2 - 38 x 286 | 3.59 | 3.09 | 2.75 | 2.50 | 2.31 |
| Roof, ceiling and 1 storey ⁽⁶⁾ | 2 - 38 x 89 | 1.12 | 1.03 | 0.96 | 0.90 | 0.85 |
| | 2 - 38 x 140 | 1.60 | 1.47 | 1.37 | 1.28 | 1.21 |
| | 2 - 38 x 184 | 1.95 | 1.79 | 1.66 | 1.56 | 1.47 |
| | 2 - 38 x 235 | 2.39 | 2.19 | 2.03 | 1.91 | 1.80 |
| | 2 - 38 x 286 | 2.77 | 2.54 | 2.36 | 2.21 | 2.09 |
| Roof, ceiling and 2 storeys ⁽⁶⁾ | 2 - 38 x 89 | 1.01 | 0.95 | 0.90 | 0.85 | 0.81 |
| | 2 - 38 x 140 | 1.44 | 1.35 | 1.28 | 1.21 | 1.16 |
| | 2 - 38 x 184 | 1.75 | 1.64 | 1.55 | 1.48 | 1.41 |
| | 2 - 38 x 235 | 2.14 | 2.01 | 1.90 | 1.81 | 1.73 |
| | 2 - 38 x 286 | 2.49 | 2.33 | 2.21 | 2.10 | 2.00 |
| Roof, ceiling and 3 storeys ⁽⁶⁾ | 2 - 38 x 89 | 0.94 | 0.90 | 0.86 | 0.82 | 0.79 |
| | 2 - 38 x 140 | 1.35 | 1.28 | 1.22 | 1.18 | 1.13 |
| | 2 - 38 x 184 | 1.64 | 1.56 | 1.49 | 1.43 | 1.38 |
| | 2 - 38 x 235 | 2.00 | 1.91 | 1.82 | 1.75 | 1.68 |
| | 2 - 38 x 286 | 2.32 | 2.21 | 2.11 | 2.03 | 1.95 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Notes to Table A-14:

- (1) A minimum 9.5 mm thick structural panel conforming to CSA O121-M, CSA O151-M, CAN/CSA-O325.0 or CAN/CSA-O437.0 shall be fastened with at least 2 rows of fasteners conforming to Table 9.23.3.5 to the exterior face of the lintel, and a single row to the top plates and studs.
- (2) Spans are calculated based on a maximum supported joist or rafter length of 4.9 m and a maximum supported truss length of 9.8 m. Spans may be increased by 5% for supported lengths not more than 4.3 m, or by 10% for supported lengths not more than 3.7 m. Supported length means half the span of the longest supported members.
- (3) If floor joists span the full width of the *building* without support, lintels spans shall be reduced by 15% for Roof, ceiling and 1 storey, by 20% for Roof, ceiling and 2 storeys, and by 25% for Roof, ceiling and three storeys.
- (4) For ends of lintels fully supported by walls, provide minimum 38 mm of bearing for lintel spans up to 3 m, or minimum 76 mm of bearing for lintel spans greater than 3 m.
- (5) A single piece of 89 mm thick lumber may be used in lieu of 2 pieces of 38 mm thick lumber on edge.
- (6) Spans apply only where the floors serve residential areas as described in Table 4.1.6.3., or the uniformly distributed *live load* on the floor does not exceed that specified for residential areas as described in Table 4.1.6.3.

Table A-15

**Maximum Spans for Hem - Fir Lintels - No. 1 or No. 2 Grade -
Non-Structural Sheathing**

Forming Part of Sentences 9.23.12.3.(1) and (3)

| Lintel Supporting | Lintel Size, mm ⁽⁴⁾ | Maximum Span, m ⁽¹⁾ (2) (3) | | | | | |
|--|--------------------------------|--|------|------|------|------|----------------|
| | | Exterior Walls | | | | | Interior Walls |
| | | Specified Snow Load, kPa | | | | | |
| | | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | |
| Limited attic storage and ceiling | 2 - 38 x 89 | This Area Intentionally Left Blank | | | | | 1.31 |
| | 2 - 38 x 140 | | | | | | 1.87 |
| | 2 - 38 x 184 | | | | | | 2.27 |
| | 2 - 38 x 235 | | | | | | 2.78 |
| | 2 - 38 x 286 | | | | | | 3.23 |
| Roof and ceiling only | 2 - 38 x 89 | 1.31 | 1.13 | 1.00 | 0.91 | 0.84 | 0.91 |
| | 2 - 38 x 140 | 1.87 | 1.61 | 1.43 | 1.30 | 1.20 | 1.30 |
| | 2 - 38 x 184 | 2.27 | 1.95 | 1.74 | 1.58 | 1.42 | 1.58 |
| | 2 - 38 x 235 | 2.78 | 2.39 | 2.13 | 1.92 | 1.71 | 1.92 |
| | 2 - 38 x 286 | 3.23 | 2.77 | 2.47 | 2.17 | 1.94 | 2.17 |
| Roof, ceiling and 1 storey ⁽⁵⁾ | 2 - 38 x 89 | 1.01 | 0.93 | 0.86 | 0.81 | 0.76 | 0.69 |
| | 2 - 38 x 140 | 1.44 | 1.32 | 1.23 | 1.14 | 1.05 | 0.95 |
| | 2 - 38 x 184 | 1.75 | 1.61 | 1.47 | 1.34 | 1.23 | 1.12 |
| | 2 - 38 x 235 | 2.14 | 1.96 | 1.76 | 1.60 | 1.48 | 1.35 |
| | 2 - 38 x 286 | 2.49 | 2.22 | 2.00 | 1.82 | 1.69 | 1.55 |
| Roof, ceiling and 2 storeys ⁽⁵⁾ | 2 - 38 x 89 | 0.91 | 0.85 | 0.80 | 0.76 | 0.72 | 0.60 |
| | 2 - 38 x 140 | 1.29 | 1.21 | 1.13 | 1.05 | 0.98 | 0.82 |
| | 2 - 38 x 184 | 1.57 | 1.44 | 1.33 | 1.24 | 1.16 | 0.98 |
| | 2 - 38 x 235 | 1.90 | 1.73 | 1.60 | 1.49 | 1.40 | 1.19 |
| | 2 - 38 x 286 | 2.15 | 1.97 | 1.82 | 1.70 | 1.60 | 1.37 |
| Roof, ceiling and 3 storeys ⁽⁵⁾ | 2 - 38 x 89 | 0.85 | 0.81 | 0.77 | 0.74 | 0.69 | 0.55 |
| | 2 - 38 x 140 | 1.21 | 1.14 | 1.06 | 1.00 | 0.95 | 0.76 |
| | 2 - 38 x 184 | 1.43 | 1.33 | 1.25 | 1.18 | 1.12 | 0.91 |
| | 2 - 38 x 235 | 1.72 | 1.60 | 1.50 | 1.42 | 1.35 | 1.10 |
| | 2 - 38 x 286 | 1.95 | 1.82 | 1.72 | 1.63 | 1.55 | 1.27 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Notes to Table A-15:

- (1) Spans are calculated based on a maximum supported joist or rafter length of 4.9 m and a maximum supported truss length of 9.8 m. Spans may be increased by 5% for supported lengths not more than 4.3 m, or by 10% for supported lengths not more than 3.7 m. Supported length means half the span of the longest supported member.
- (2) If floor joists span the full width of the *building* without support, lintels spans shall be reduced by 15% for Roof, ceiling and 1 storey, by 20% for Roof, ceiling and 2 storeys, and by 25% for Roof, ceiling and 3 storeys.
- (3) For ends of lintels fully supported by walls, provide minimum 38 mm of bearing for lintel spans up to 3 m, or minimum 76 mm of bearing for lintel spans greater than 3 m.
- (4) A single piece of 89 mm thick lumber may be used in lieu of 2 pieces of 38 mm thick lumber on edge.
- (5) Spans apply only where the floors serve residential areas as described in Table 4.1.6.3., or the uniformly distributed *live load* on the floor does not exceed that specified for residential areas as described in Table 4.1.6.3.

Table A-16

**Maximum Spans for Hem - Fir Lintels - No. 1 or No. 2 Grade -
Structural Sheathing⁽¹⁾**

Forming Part of Sentences 9.23.12.3.(1) and (3)

| Lintel Supporting | Lintel Size mm, ⁽⁵⁾ | Maximum Span, m ^{(2) (3) (4)} | | | | |
|--|--------------------------------|--|------|------|------|------|
| | | Exterior Walls | | | | |
| | | Specified Snow Load, kPa | | | | |
| | | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 |
| Roof and ceiling only | 2 - 38 x 89 | 1.47 | 1.29 | 1.17 | 1.07 | 0.98 |
| | 2 - 38 x 140 | 2.18 | 1.88 | 1.67 | 1.52 | 1.40 |
| | 2 - 38 x 184 | 2.65 | 2.28 | 2.03 | 1.85 | 1.71 |
| | 2 - 38 x 235 | 3.25 | 2.79 | 2.49 | 2.26 | 2.08 |
| | 2 - 38 x 286 | 3.77 | 3.24 | 2.88 | 2.62 | 2.35 |
| Roof, ceiling and 1 storey ⁽⁶⁾ | 2 - 38 x 89 | 1.18 | 1.08 | 1.00 | 0.94 | 0.89 |
| | 2 - 38 x 140 | 1.68 | 1.54 | 1.43 | 1.34 | 1.27 |
| | 2 - 38 x 184 | 2.05 | 1.88 | 1.74 | 1.63 | 1.49 |
| | 2 - 38 x 235 | 2.50 | 2.30 | 2.13 | 1.94 | 1.78 |
| | 2 - 38 x 286 | 2.91 | 2.66 | 2.42 | 2.20 | 2.03 |
| Roof, ceiling and 2 storeys ⁽⁶⁾ | 2 - 38 x 89 | 1.06 | 0.99 | 0.94 | 0.89 | 0.85 |
| | 2 - 38 x 140 | 1.51 | 1.42 | 1.34 | 1.27 | 1.19 |
| | 2 - 38 x 184 | 1.84 | 1.73 | 1.62 | 1.50 | 1.40 |
| | 2 - 38 x 235 | 2.25 | 2.11 | 1.93 | 1.79 | 1.68 |
| | 2 - 38 x 286 | 2.61 | 2.38 | 2.19 | 2.03 | 1.91 |
| Roof, ceiling and 3 storeys ⁽⁶⁾ | 2 - 38 x 89 | 0.99 | 0.94 | 0.90 | 0.86 | 0.83 |
| | 2 - 38 x 140 | 1.41 | 1.34 | 1.28 | 1.22 | 1.15 |
| | 2 - 38 x 184 | 1.72 | 1.62 | 1.52 | 1.43 | 1.35 |
| | 2 - 38 x 235 | 2.09 | 1.94 | 1.81 | 1.71 | 1.62 |
| | 2 - 38 x 286 | 2.37 | 2.20 | 2.06 | 1.94 | 1.84 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Notes to Table A-16:

- (1) A minimum 9.5 mm thick structural panel conforming to CSA O121-M, CSA O151-M, CAN/CSA-O325.0 or CAN/CSA-O437.0 shall be fastened with at least 2 rows of fasteners conforming to Table 9.23.3.5 to the exterior face of the lintel, and a single row to the top plates and studs.
- (2) Spans are calculated based on a maximum supported joist or rafter length of 4.9 m and a maximum supported truss length of 9.8 m. Spans may be increased by 5% for supported lengths not more than 4.3 m, or by 10% for supported lengths not more than 3.7 m. Supported length means half the span of the longest supported member.
- (3) If floor joists span the full width of the *building* without support, lintels spans shall be reduced by 15% for Roof, ceiling and 1 storey, by 20% for Roof, ceiling and 2 storeys, and by 25% for Roof, ceiling and 3 storeys.
- (4) For ends of lintels fully supported by walls, provide minimum 38 mm of bearing for lintel spans up to 3 m, or minimum 76 mm of bearing for lintel spans greater than 3 m.
- (5) A single piece of 89 mm thick lumber may be used in lieu of 2 pieces of 38 mm thick lumber on edge.
- (6) Spans apply only where the floors serve residential areas as described in Table 4.1.6.3., or the uniformly distributed live load on the floor does not exceed that specified for residential areas as described in Table 4.1.6.3.

Table A-17

**Maximum Spans for Spruce - Pine - Fir Lintels - No. 1 or No. 2 Grade
Non-Structural Sheathing**

Forming Part of Sentences 9.23.12.3.(1) and (3)

| Lintel Supporting | Lintel Size, mm ⁽⁴⁾ | Maximum Span, m ^{(1) (2) (3)} | | | | | |
|--|---|--|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| | | Exterior Walls | | | | | Interior Walls |
| | | Specified Snow Load, kPa | | | | | |
| | | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | |
| Limited attic storage and ceiling | 2 - 38 x 89 2 - 38 x 140 2 - 38 x 184 2 - 38 x 235 2 - 38 x 286 | This Area Intentionally Left Blank | | | | | 1.27 1.99 2.51 3.07 3.57 |
| Roof and ceiling only | 2 - 38 x 89 2 - 38 x 140 2 - 38 x 184 2 - 38 x 235 2 - 38 x 286 | 1.27 1.93 2.35 2.88 3.34 | 1.11 1.66 2.02 2.47 2.87 | 1.01 1.48 1.80 2.20 2.56 | 0.93 1.35 1.64 2.01 2.33 | 0.87 1.25 1.52 1.84 2.09 | 0.93 1.35 1.64 2.01 2.33 |
| Roof, ceiling and 1 storey ⁽⁵⁾ | 2 - 38 x 89 2 - 38 x 140 2 - 38 x 184 2 - 38 x 235 2 - 38 x 286 | 1.05 1.49 1.82 2.22 2.58 | 0.96 1.37 1.67 2.04 2.36 | 0.89 1.27 1.55 1.89 2.15 | 0.84 1.19 1.44 1.73 1.96 | 0.79 1.13 1.33 1.59 1.81 | 0.74 1.02 1.20 1.45 1.66 |
| Roof, ceiling and 2 storeys ⁽⁵⁾ | 2 - 38 x 89 2 - 38 x 140 2 - 38 x 184 2 - 38 x 235 2 - 38 x 286 | 0.94 1.34 1.63 1.99 2.31 | 0.88 1.26 1.53 1.87 2.12 | 0.83 1.19 1.44 1.72 1.96 | 0.79 1.13 1.33 1.60 1.82 | 0.76 1.06 1.25 1.50 1.71 | 0.64 0.88 1.05 1.27 1.45 |
| Roof, ceiling and 3 storeys ⁽⁵⁾ | 2 - 38 x 89 2 - 38 x 140 2 - 38 x 184 2 - 38 x 235 2 - 38 x 286 | 0.88 1.25 1.52 1.86 2.11 | 0.83 1.19 1.44 1.73 1.96 | 0.80 1.14 1.35 1.62 1.84 | 0.77 1.08 1.27 1.53 1.74 | 0.74 1.02 1.21 1.45 1.66 | 0.59 0.81 0.97 1.17 1.35 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Notes to Table A-17:

- (1) Spans are calculated based on a maximum supported joist or rafter length of 4.9 m and a maximum supported truss length of 9.8 m. Spans may be increased by 5% for supported lengths not more than 4.3 m, or by 10% for supported lengths not more than 3.7 m. Supported length means half the span of the longest supported member.
- (2) If floor joists span the full width of the building without support, lintels spans shall be reduced by 15% for Roof, ceiling and 1 storey, by 20% for Roof, ceiling and 2 storeys, and by 25% for Roof, ceiling and 3 storeys.
- (3) For ends of lintels fully supported by walls, provide minimum 38 mm of bearing for lintel spans up to 3 m, or minimum 76 mm or bearing for lintel spans greater than 3 m.
- (4) A single piece of 89 mm thick lumber may be used in lieu of 2 pieces of 38 mm thick lumber on edge.
- (5) Spans apply only where the floors serve residential areas as described in Table 4.1.6.3., or the uniformly distributed live load on the floor does not exceed that specified for residential areas as described in table 4.1.6.3.

Table A-18

**Maximum Spans for Spruce - Pine - Fir Lintels - No. 1 or No. 2 Grade
Structural Sheathing⁽¹⁾**

Forming Part of Sentences 9.23.12.3.(1) and (3)

| Lintel Supporting | Lintel Size, mm ⁽⁵⁾ | Maximum Span, m ^{(2) (3) (4)} | | | | |
|--|--------------------------------|--|------|------|------|------|
| | | Exterior Walls | | | | |
| | | Specified Snow Load, kPa | | | | |
| | | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 |
| Roof and ceiling only | 2 - 38 x 89 | 1.40 | 1.23 | 1.11 | 1.03 | 0.97 |
| | 2 - 38 x 140 | 2.21 | 1.93 | 1.73 | 1.57 | 1.45 |
| | 2 - 38 x 184 | 2.75 | 2.36 | 1.10 | 1.92 | 1.77 |
| | 2 - 38 x 235 | 3.36 | 2.89 | 2.57 | 2.34 | 2.16 |
| | 2 - 38 x 286 | 3.90 | 3.35 | 2.99 | 2.72 | 2.51 |
| Roof, ceiling and 1 storey ⁽⁶⁾ | 2 - 38 x 89 | 1.16 | 1.08 | 1.01 | 0.96 | 0.92 |
| | 2 - 38 x 140 | 1.74 | 1.60 | 1.48 | 1.39 | 1.32 |
| | 2 - 38 x 184 | 2.12 | 1.95 | 1.81 | 1.69 | 1.60 |
| | 2 - 38 x 235 | 2.59 | 2.38 | 2.21 | 2.07 | 1.93 |
| | 2 - 38 x 286 | 3.01 | 2.76 | 2.56 | 2.38 | 2.19 |
| Roof, ceiling and 2 storeys ⁽⁶⁾ | 2 - 38 x 89 | 1.09 | 1.03 | 0.97 | 0.92 | 0.88 |
| | 2 - 38 x 140 | 1.56 | 1.47 | 1.39 | 1.32 | 1.26 |
| | 2 - 38 x 184 | 1.90 | 1.79 | 1.69 | 1.61 | 1.51 |
| | 2 - 38 x 235 | 2.33 | 2.19 | 2.07 | 1.94 | 1.81 |
| | 2 - 38 x 286 | 2.70 | 2.54 | 2.37 | 2.20 | 2.05 |
| Roof, ceiling and 3 storeys ⁽⁶⁾ | 2 - 38 x 89 | 1.02 | 0.97 | 0.93 | 0.89 | 0.86 |
| | 2 - 38 x 140 | 1.46 | 1.39 | 1.33 | 1.28 | 1.23 |
| | 2 - 38 x 184 | 1.78 | 1.69 | 1.62 | 1.54 | 1.46 |
| | 2 - 38 x 235 | 2.17 | 2.07 | 1.96 | 1.84 | 1.74 |
| | 2 - 38 x 286 | 2.52 | 2.38 | 2.22 | 2.09 | 1.98 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Notes to Table A-18:

- (1) A minimum 9.5 mm thick structural panel conforming to CSA O121-M, CSA O151-M, CAN/CSA-O325.0 or CAN/CSA-O437.0 shall be fastened with at least 2 rows of fasteners conforming to Table 9.23.3.5 to the exterior face of the lintel, and a single row to the top plates and studs.
- (2) Spans are calculated based on a maximum supported joist or rafter length of 4.9 m and a maximum supported truss length of 9.8 m. Spans may be increased by 5% for supported lengths not more than 4.3 m, or by 10% for supported lengths not more than 3.7 m. Supported length means half the span of the longest supported member.
- (3) If roof joists span the full width of the *building* without support, lintels spans shall be reduced by 15% for roof, ceiling and one storey, by 20% for roof, ceiling and two storeys, and by 25% for roof, ceiling and three storeys.
- (4) For ends of lintels fully supported by walls, provide minimum 38 mm of bearing for lintel spans up to 3 m, or minimum 76 mm of bearing for lintel spans greater than 3 m.
- (5) A single piece of 89 mm thick lumber may be used in lieu of 2 pieces of 38 mm thick lumber on edge.
- (6) Spans apply only where the floors serve residential areas as described in Table 4.1.6.3., or the uniformly distributed *live load* on the floor does not exceed that specified for residential areas as described in Table 4.1.6.3.

Table A-19

Maximum Spans for Built-up Lintels - Roof and Ceiling Load Only - No. 1 or No. 2 Grade

Forming Part of Sentences 9.23.12.3.(1) and (3)

| Commercial Designation | Lintel Size, mm | Maximum Span, m ^{(1) (2)} | | | | |
|--|-----------------|------------------------------------|------|------|------|------|
| | | Specified Snow Load, kPa | | | | |
| | | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 |
| Douglas Fir - Larch (includes Douglas Fir and Western larch) | 3 - 38 x 184 | 2.76 | 2.38 | 2.12 | 1.93 | 1.78 |
| | 4 - 38 x 184 | 3.19 | 2.74 | 2.44 | 2.22 | 2.05 |
| | 5 - 38 x 184 | 3.57 | 3.07 | 2.73 | 2.49 | 2.30 |
| | 3 - 38 x 235 | 3.38 | 2.90 | 2.59 | 2.35 | 2.18 |
| | 4 - 38 x 235 | 3.90 | 3.35 | 2.99 | 2.72 | 2.51 |
| | 5 - 38 x 235 | 4.36 | 3.75 | 3.34 | 3.04 | 2.81 |
| | 3 - 38 x 286 | 3.92 | 3.37 | 3.00 | 2.73 | 2.52 |
| | 4 - 38 x 286 | 4.53 | 3.89 | 3.47 | 3.15 | 2.91 |
| | 5 - 38 x 286 | 5.06 | 4.35 | 3.87 | 3.53 | 3.26 |
| Hem - Fir (includes Western Hemlock and Amabilis Fir) | 3 - 38 x 184 | 2.90 | 2.49 | 2.22 | 2.02 | 1.87 |
| | 4 - 38 x 184 | 3.35 | 2.88 | 2.56 | 2.33 | 2.15 |
| | 5 - 38 x 184 | 3.73 | 3.22 | 2.86 | 2.61 | 2.41 |
| | 3 - 38 x 235 | 3.54 | 3.05 | 2.71 | 2.47 | 2.28 |
| | 4 - 38 x 235 | 4.09 | 3.52 | 3.13 | 2.85 | 2.63 |
| | 5 - 38 x 235 | 4.57 | 3.93 | 3.50 | 3.19 | 2.95 |
| | 3 - 38 x 286 | 4.11 | 3.53 | 3.15 | 2.87 | 2.62 |
| | 4 - 38 x 286 | 4.75 | 4.08 | 3.63 | 3.31 | 3.06 |
| | 5 - 38 x 286 | 5.31 | 4.56 | 4.06 | 3.70 | 3.42 |
| Spruce - Pine - Fir (includes Spruce (all species except Coast Sitka Spruce) Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir) | 3 - 38 x 184 | 3.00 | 2.58 | 2.30 | 2.09 | 1.93 |
| | 4 - 38 x 184 | 3.30 | 2.88 | 2.62 | 2.42 | 2.23 |
| | 5 - 38 x 184 | 3.55 | 3.10 | 2.82 | 2.62 | 2.46 |
| | 3 - 38 x 235 | 3.67 | 3.15 | 2.81 | 2.56 | 2.36 |
| | 4 - 38 x 235 | 4.21 | 3.64 | 3.24 | 2.95 | 2.73 |
| | 5 - 38 x 235 | 4.54 | 3.96 | 3.60 | 3.30 | 3.05 |
| | 3 - 38 x 286 | 4.26 | 3.66 | 3.26 | 2.97 | 2.74 |
| | 4 - 38 x 286 | 4.92 | 4.23 | 3.76 | 3.43 | 3.17 |
| | 5 - 38 x 286 | 5.49 | 4.73 | 4.21 | 3.83 | 3.54 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Notes to Table A-19:

- (1) Spans are calculated based on a maximum supported length of 4.9 m. Spans may be increased by 15% for supported lengths not more than 3.7 m, or by 35% for supported lengths not more than 2.4 m. Supported length means half span of the trusses, roof joists or rafters supported by the lintel plus the length of the overhang beyond the lintel.
- (2) For ends of lintels fully supported by the wall, provide minimum 38 mm of bearing for lintel spans up to 3 m, or minimum 76 mm of bearing for lintel spans greater than 3 m.

Table A-20

**Maximum Spans for Glued-Laminated Timber Lintels
20f-E Stress Grade - Exterior Walls - Roof and Ceiling Load Only**

Forming part of Sentences 9.23.12.3.(1) and (3)

| Lintel Size, mm | Maximum Span, m ^{(1) (2) (3)} | | | | | | | | | | | | | | |
|--------------------|--|------|------|--|------|------|--|------|------|--|------|------|--|------|------|
| | Specified Snow Load, kPa | | | | | | | | | | | | | | |
| | 1.0 | | | 1.5 | | | 2.0 | | | 2.5 | | | 3.0 | | |
| | Supported length m ^{(4) (5)} | | | Supported length m ^{(4) (5)} | | | Supported length m ^{(4) (5)} | | | Supported length m ^{(4) (5)} | | | Supported length m ^{(4) (5)} | | |
| | 2.4 | 3.6 | 4.8 | 2.4 | 3.6 | 4.8 | 2.4 | 3.6 | 4.8 | 2.4 | 3.6 | 4.8 | 2.4 | 3.6 | 4.8 |
| 130 x 304 | 6.23 | 5.63 | 5.24 | 5.63 | 5.09 | 4.73 | 5.24 | 4.73 | 4.40 | 4.95 | 4.48 | 4.17 | 4.73 | 4.28 | 3.87 |
| 80 x 380 | 6.52 | 5.89 | 5.48 | 5.89 | 5.32 | 4.96 | 5.48 | 4.96 | 4.52 | 5.19 | 4.69 | 4.11 | 4.96 | 4.39 | 3.80 |
| 130 x 342 | 6.80 | 6.15 | 5.72 | 6.15 | 5.56 | 5.17 | 5.72 | 5.17 | 4.81 | 5.41 | 4.89 | 4.55 | 5.17 | 4.67 | 4.35 |
| 80 x 418 | 7.00 | 6.33 | 5.89 | 6.33 | 5.72 | 5.32 | 5.89 | 5.32 | 4.96 | 5.57 | 5.03 | 4.52 | 5.32 | 4.81 | 4.18 |
| 130 x 380 | 7.36 | 6.65 | 6.19 | 6.65 | 6.01 | 5.59 | 6.19 | 5.59 | 5.21 | 5.86 | 5.29 | 4.92 | 5.59 | 5.06 | 4.70 |
| 80 x 456 | 7.48 | 6.76 | 6.29 | 6.76 | 6.10 | 5.68 | 6.29 | 5.68 | 5.29 | 5.95 | 5.37 | 4.93 | 5.68 | 5.13 | 4.56 |
| 130 x 418 | 7.91 | 7.15 | 6.65 | 7.15 | 6.46 | 6.01 | 6.65 | 6.01 | 5.59 | 6.29 | 5.68 | 5.29 | 6.01 | 5.43 | 5.05 |
| 80 x 494 | 7.94 | 7.17 | 6.68 | 7.17 | 6.48 | 6.03 | 6.68 | 6.03 | 5.61 | 6.31 | 5.71 | 5.31 | 6.03 | 5.45 | 4.94 |
| 80 x 532 | 8.39 | 7.58 | 7.06 | 7.58 | 6.85 | 6.38 | 7.06 | 6.38 | 5.93 | 6.67 | 6.03 | 5.61 | 6.38 | 5.76 | 5.32 |
| 130 x 456 | 8.44 | 7.63 | 7.10 | 7.63 | 6.89 | 6.41 | 7.10 | 6.41 | 5.97 | 6.71 | 6.07 | 5.65 | 6.41 | 5.80 | 5.39 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

Notes to Table A-20:

- (1) Spans are valid for glued-laminated timber conforming to CAN/CSA-O122-M and CAN/CSA-O177-M.
- (2) Provide minimum 89 mm bearing. (Alternatively, the bearing length may be calculated in accordance with Part 4.)
- (3) Top edge of lintel assumed to be fully laterally supported.
- (4) Supported length means half the length of trusses or rafters, plus the length of overhang beyond the wall.
- (5) For intermediate supported lengths, straight line interpolation may be used.

Part 10 Change of Use

Section 10.1. General
10.1.1. Scope

Section 10.2. Classification of Existing Buildings
10.2.1. Classification

Section 10.3. Requirements
10.3.1. General
10.3.2. Performance Level

Section 10.4. Compliance Alternatives And Alternative Measures
10.4.1. Compliance Alternatives
10.4.2. Alternative Measures

Part 10 Change of Use

Section 10.1. General

10.1.1. Scope

10.1.1.1. Scope

(1) The scope of this Part shall be as described in Section 2.1.

10.1.1.2. Change in Major Occupancy

(1) The following changes of use shall also be deemed to be a change in *major occupancy* for the purposes of this Part:

- (a) a *suite* of a Group C *major occupancy* is converted into more than one *suite* of Group C *major occupancy*,
- (b) a *farm building* or part of a *farm building* is changed to a *major occupancy*, and
- (c) the use of a *building* or part of a *building* is changed and the previous *major occupancy* of the *building* or part of the *building* cannot be determined.

10.1.1.3. Definitions

(1) In this Part, the following words and terms have the meaning that they are given in Article 11.1.1.2.:

Building system

Section 10.2. Classification of Existing Buildings

10.2.1. Classification

10.2.1.1. Classification of Major Occupancy

(1) Every existing *building* or part thereof shall be classified according to its *major occupancy* in accordance with the requirements of Subsection 3.1.2.

10.2.1.2. Classification According to Construction and Occupancy

(1) For the purposes of this Part, existing *buildings* shall be classified as to their *construction* and *occupancy* as provided for in Sentence 11.2.1.1.(1).

10.2.1.3. Building Size and Construction

(1) The requirements of Articles 3.2.2.20. to 3.2.2.83. do not apply to this Part.

Section 10.3. Requirements

10.3.1. General

10.3.1.1. General

(1) Except as provided in Section 10.4., a *building* or part of a *building* subject to a change of *major occupancy* shall conform to the requirements of Subsection 3.2.6., Sections 3.7., 3.11., 9.5. and 9.7., Subsection 9.10.16., Sections 9.31. and 9.32., and Subsections 9.34.1., 9.34.2. and 9.34.3. as they apply to the new *major occupancy* that the *building* or part of a *building* is to support.

10.3.2. Performance Level

10.3.2.1. General

(1) The *performance level* of a *building* after the change of *major occupancy* shall not be less than the *performance level* prior to the change of *major occupancy*.

(2) For the purposes of Sentence (1), reduction of *performance level* shall be determined in accordance with Article 10.3.2.2.

10.3.2.2. Reduction in Performance Level

(1) Except as provided in Sentence (2), the *performance level* of a *building* or part of a *building* is reduced where the existing structural floor and roof framing systems and their supporting members are not adequate to support the proposed *dead loads* and *live loads* of the new *major occupancy* that the *building* is to support.

(2) The inadequacy of the existing structural floor or roof framing system and its supporting members to support the proposed *dead loads* and *live loads* does not reduce the *performance level* of the *building* if the portion of the floor affected by the proposed loads is restricted to the loading it will support and signs stating the restrictions are posted.

(3) Except as provided in Section 10.4., the *performance level* of a *building* or part of a *building* is reduced where the early warning and evacuation systems requirements of the *building* do not meet the early warning and evacuation systems requirements set out in Table 10.3.2.2.A. for the new *major occupancy* that the *building* is to support.

Table 10.3.2.2.A.

For Evaluation of Early Warning/Evacuation

Forming Part of Sentence 10.3.2.2.(3)

| EW/EVAC Evaluation | Compliance Alternative ⁽¹⁾ |
|--|---|
| <p>Early Warning and Evacuation to be checked against</p> <p>(a) <i>access to exit</i> widths based on <i>occupant load</i> in Subsection 3.3.1. or 9.9.3.;</p> <p>(b) <i>exit</i> widths based on <i>occupant load</i> in Subsection 3.4.3. or 9.9.3.;</p> <p>(c) <i>exit</i> signs in Subsection 3.4.5. or 9.9.10.;</p> <p>(d) lighting of <i>exits</i>, lighting of <i>access to exits</i> and emergency lighting in Subsection 3.2.7. or 9.9.11.;</p> <p>(e) fire alarm system in Subsection 3.2.4. or 9.10.17.;</p> <p>(f) <i>smoke alarms</i> in 9.10.18.;</p> <p>(g) travel distance and number of <i>exits</i> in other Parts of the Code;</p> <p>(h) smoke control measures, and at least one elevator to permit transport of firefighters to all floors in <i>hotels</i> whose floor level is more than 18 m high, measured between <i>grade</i> and floor level of the top <i>storey</i> as per Subsection 3.2.6., and</p> <p>deficiencies shall be upgraded.</p> | <p>EARLY WARNING</p> <p>(a) <i>Compliance alternatives</i> as listed may be used.</p> <p>EVACUATION</p> <p>(b) <i>Compliance alternatives</i> as listed to <i>access to exit</i> and <i>exit</i> widths, number of <i>exits</i>, and travel distance may be used.</p> |
| Column 1 | 2 |

Note to Table 10.3.2.2.A.:

⁽¹⁾ See Tables 11.5.1.1.A., 11.5.1.1.B., 11.5.1.1.C., 11.5.1.1.D/E and 11.5.1.1.F. for *compliance alternatives* that may be used.

(4) Except as provided in Sentence (5), the *performance level* of an existing *building* is reduced where a change in use will result in a change of the *major occupancy* of all or part of an existing *building* to another *major occupancy* of a greater *hazard index*.

(5) Except as provided in Sentence (6), if the *hazard index* of the new *major occupancy* is greater than the *hazard index* of the existing *major occupancy*, the *performance level* is not reduced where the *hazard index* of the new *major occupancy* is not greater than the *construction index* of the existing *building*.

(6) Small or medium sized existing *buildings* as determined in Tables 11.2.1.1.B. to N. facing multiple streets may be assigned a *hazard index* credit of 1, which may be subtracted from the *hazard index* of the new *major occupancy* provided

(a) the *building* does not contain a Group B, Division 1, a Group C, or a Group F, Division 1 *occupancy*, and

(b) fire fighting access complying with Articles 3.2.5.1., 3.2.5.2., 3.2.5.3., 3.2.5.4. and 3.2.5.5. or Subsection 9.10.9., or an approved *alternative measure* is provided from all *streets*.

(7) Except as provided in Sentence (8), the *performance level* of a *building* or part of a *building* is reduced in an existing *building* constructed of *combustible construction* where

(a) the *occupancy* is changed to a *residential occupancy* in all or part of the *building*, and

(b) if the *building* was new, it would have been required to be constructed of *noncombustible construction*.

(8) A change in the *occupancy* of a *building* or part of a *building* to a *residential occupancy* does not reduce the *performance level* of the *building* or part of the *building* where

(a) the *building* is *sprinklered*, and

(b) the *building* does not exceed 6 *storeys* in *building height*.

(9) The *performance level* of a *building* or part of a *building* is reduced where the new *major occupancy* in an existing *building* of multiple *occupancy* is not separated from adjoining *major occupancies* by *fire separations* having *fire-resistance ratings* conforming to Article 3.1.3.1., Subsection 9.10.9. or Table 10.3.2.2.B.

Table 10.3.2.2.B.(1)

Additional Upgrading for Multiple Major Occupancies

Forming Part of Sentence 10.3.2.2.(9)

| New Major Occupancy | Code Requirements | Compliance Alternative |
|---------------------|--|---|
| All ⁽²⁾ | Table 3.1.3.1. and Subsection 9.10.9. Where: 1 h rating required 2 h rating required 3 h rating required | For Existing Buildings If Sprinklered Reduce to 45 min 1.5 h 2 h Reduce to 30 min 1 h 1.5 h |
| Column 1. | 2 | 3 |

Notes to Table 10.3.2.2.B.:

- (1) For buildings with multiple major occupancies only, where there is a change in major occupancy.
- (2) See Sentence 10.3.2.2.(9).

(10) The performance level of a building is reduced where the building after the change of major occupancy will not comply with Articles 3.1.3.1. or 9.10.9.12.

Section 10.4. Compliance Alternatives And Alternative Measures

10.4.1. Compliance Alternatives

10.4.1.1. Substitution

(1) Except as provided in Sentence (3), a compliance alternative to a requirement contained in Part 3, 4, 5, 6 or 7 which is shown in Tables 11.5.1.1.A., 11.5.1.1.B., 11.5.1.1.C., 11.5.1.1.D/E. or 11.5.1.1.F. may be substituted for the requirement where the chief building official is satisfied that compliance with the requirement is impracticable because

- (a) of structural or construction difficulties, or
- (b) it is detrimental to the preservation of a heritage building.

(2) Except as provided in Sentence (3), a compliance alternative to a requirement contained in Part 9 shown in Tables 11.5.1.1.C., 11.5.1.1.D/E. or 11.5.1.1.F. may be substituted for the requirement without satisfying the chief building official that the requirement is impracticable.

(3) Where the building has been in existence for less than five years, compliance alternatives may only be used in respect of requirements of the Code which are referenced in Sentences 10.3.2.2.(3), (5) and Table 10.3.2.2.B.

10.4.2. Alternative Measures

10.4.2.1. Substitution

- (1) Except as permitted in Sentence (2), an alternative measure to

- (a) a requirement of Part 3, 4, 5, 6, 7 or 9 of the Code, or
- (b) a compliance alternative,

may be substituted for the requirement or the compliance alternative, as the case may be, where the chief building official is satisfied that compliance with the requirement or the compliance alternative, as the case may be, is impracticable because

- (c) of structural or construction difficulties, or

- (d) it is detrimental to the preservation of a heritage building.

(2) Where the building has been in existence for less than five years, alternative measures may only be used in respect of requirements of the Code which are referenced in Sentence 10.3.2.2.(3), (5) and Table 10.3.2.2.B.

Part 11
Renovation

| | | |
|---------|---------|--|
| Section | 11.1. | General |
| | 11.1.1. | Scope |
| | 11.1.2. | Application |
| Section | 11.2. | Classification of Existing Buildings |
| | 11.2.1. | Classification |
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| | 11.3.1. | New and Existing Building Systems |
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| | 11.5.1. | Compliance Alternatives |
| | 11.5.2. | Alternative Measures |

Part 11
Renovation

Section 11.1. General

11.1.1. Scope

11.1.1.1. Scope

- (1) The scope of this Part shall be as described in Section 2.1.

11.1.1.2. Definitions

- (1) In this Part,

Building system means a combination of elements or components that form a complete major division of construction in the design of a building or part of a building, including a structural or framing system, a waterproofing system, a drainage system, an exterior cladding system, a roofing system, a window system, a partition system, a corridor system, a stair system, a fire alarm and detection system, a sprinkler system or a heating, ventilation or air conditioning system, a foundation system, a standpipe and hose system, a flooring system, a plumbing system, or an electrical system.

11.1.2. Application

11.1.2.1. Extension, Material Alteration or Repair

(1) Where an existing building is subject to extension, material alteration or repair

- (a) the proposed construction shall comply with Section 11.3., and

- (b) the *performance level* of the *building* shall be evaluated and compensating *construction* shall be undertaken in accordance with Section 11.4.

Section 11.2. Classification of Existing Buildings

11.2.1. Classification

11.2.1.1. Construction Index and Hazard Index

(1) There proposed *construction* will result in the change of *major occupancy* of all or part of an existing *building* to another *major occupancy*, the *building* shall be classified as to its

- (a) *construction* on the basis of *construction index* as provided for in this Part including Table 11.2.1.1.A., and
- (b) *occupancy* on the basis of *hazard index* as provided for in this Part including Tables 11.2.1.1.B. to 11.2.1.1.N.

(2) Small or medium sized existing *buildings* as determined in Tables 11.2.1.1.B. to 11.2.1.1.N. facing multiple *streets* may be assigned a *hazard index* credit of 1, which may be subtracted from the *hazard index* of the proposed *major occupancy* to reduce the additional upgrading required by Table 11.4.3.4.A. provided

- (a) the *building* does not contain a Group B, Division 1; a Group C, or a Group F, Division 1 *occupancy*, and
 - (b) fire fighting access complying with Articles 3.2.5.1., 3.2.5.2., 3.2.5.3., 3.2.5.4. and 3.2.5.5. or Subsection 9.10.19., or an approved *alternative measure*, is provided from all *streets*.
- (3) The requirements of Articles 3.2.2.20. to 3.2.2.83. do not apply to this Part.

11.2.1.2. Multiple Occupancies

(1) The classification of an existing *building* of multiple *occupancy* under Article 11.2.1.1. shall be applied according to Articles 3.2.2.5. to 3.2.2.8.

11.2.1.3. Prohibition of Occupancy Combinations

(1) Nothing in this Part relieves an applicant from complying with the requirements of Articles 3.1.3.2. or 9.10.9.12.

Section 11.3. Proposed Construction

11.3.1. New and Existing Building Systems

11.3.1.1. Material Alteration or Repair of a Building System

(1) Where an existing *building system* is materially altered or repaired, the *performance level* of the *building* after the material alteration or repair shall be at least equal to the *performance level* of the *building* prior to the material alteration or repair.

11.3.1.2. New Building Systems and Extension of Existing Building Systems

(1) Except as provided in Article 11.3.3.1. and Section 11.5., the design and *construction* of a new *building system* or the extension of an existing *building system*, shall comply with all other Parts of the Code.

11.3.2. Extension of Buildings

11.3.2.1. Portion of Extended Buildings

- (1) Where an existing *building* is extended
 - (a) this Part applies to the existing portion of the *building*, and
 - (b) the extended portion of the *building* shall comply with all other Parts of the Code.

11.3.3. Renovation

11.3.3.1. Basic Renovation

(1) Except as provided in Sentence (2) and Article 11.3.3.2., *construction* may be carried out to maintain the existing *performance level* of all or part of an existing *building*, by the reuse, relocation or extension of the same or similar materials or components, to retain the existing character, structural uniqueness, heritage value, or aesthetic appearance of all or part of the *building* if, the *construction* will not adversely affect the early warning and evacuation systems, fire separations, the structural adequacy or create an unhealthy environment in the *building*.

(2) *Construction* in respect of a *hotel* may only be carried out in accordance with Sentence (1) provided that the *construction* will be in conformance with Part 9 of the Ontario Fire Code made under the *Fire Marshals Act*.

11.3.3.2. Extensive Renovation

(1) Except as provided in Subsection 11.5.2., where existing interior walls or ceilings or floor assemblies or roof assemblies are substantially removed in an existing *building* and new interior walls, ceilings, or floor assemblies are installed in the *building*, structural and fire-resistance elements shall be constructed in compliance with the requirements of the other Parts of the Code.

11.3.4. Plumbing

11.3.4.1. Existing Plumbing System

(1) Notwithstanding Subsections 11.3.1., 11.3.2., 11.3.3., where an existing *plumbing system* is extended or subject to material alteration or repair, the *construction* of plumbing shall comply with Part 7.

Section 11.4. Performance Level Evaluation and Compensating Construction

11.4.1. General

11.4.1.1. Performance Level

(1) The *performance level* of a *building* after *construction* shall not be less than the *performance level* of the *building* prior to *construction*.

(2) For the purposes of Sentence (1), reduction of *performance level* shall be determined in accordance with Subsection 11.4.2.

(3) Where the proposed *construction* would reduce the *performance level* of an existing *building*, compensating *construction* shall be required in conformance with Subsection 11.4.3.

11.4.2. Reduction in Performance Level

11.4.2.1. Structural

(1) The *performance level* of an existing *building* is reduced where after proposed *construction* in all or part of an existing *building*

- (a) the *major occupancy* will change to a different *major occupancy*,
- (b) the *occupant load* will increase by more than 15%, or
- (c) the *live load* will increase due to change in use within the same *major occupancy*,

and the existing structural floor and roof framing systems and their supporting members after the *construction* are not adequate to support the proposed *dead loads* and *live loads*.

11.4.2.2. Increase in Occupant Load

(1) The *performance level* of an existing *building* is reduced where proposed *construction* will increase the *occupant load* of an existing *building* by more than 15%.

(2) The *performance level* of an existing *building* is reduced where proposed *construction* will increase the *occupant load* by 15% or less and the new *occupant load* will be more than 15% above the *occupant load* for which a fire alarm system is required under Sentence 3.2.4.1.(2).

(3) The *performance level* of an existing *building* is reduced where proposed *construction* will increase the *occupant load* by 15% or less and the new *occupant load* will be more than 15% above the existing exit capacity as required under Article 3.4.3.4.

11.4.2.3. Change of Major Occupancy

(1) The *performance level* of an existing *building* is reduced where proposed *construction* will result in

- (a) the change of the *major occupancy* of all or part of an existing *building* to another *major occupancy* of a greater *hazard index*,
- (b) the conversion of a *suite* of a Group C *major occupancy* into more than one *suite* of Group C *major occupancy*,
- (c) the change of a *farm building* or part of a *farm building* to a *major occupancy*, or
- (d) the change in use of a *building* or part of a *building* where the previous *major occupancy* of the *building* or part of the *building* cannot be determined.

(2) For the purpose of this Article and Sentence 11.4.2.1.(1), the change of use set out in Clauses (1)(b) to (d) shall also be deemed to be a change in *major occupancy*.

(3) The *performance level* of an existing *building* is reduced where the early warning and evacuation systems requirements of other Parts of the Code for the proposed *major occupancy* exceed those of the existing *building*.

(4) The *performance level* of an existing *building* is reduced where the proposed *major occupancy* in the *building* is not separated from the adjoining *major occupancies* by *fire separations* having *fire-resistance ratings* conforming to Tables 3.1.3.1. and 11.4.3.4.B.

(5) The *performance level* of an existing *building* is reduced where the *occupancy* of all or part of an existing *building* of *combustible construction* is changed to a new *major occupancy* that would require the *building*, if it were a new *building*, to be *constructed* of *noncombustible construction*.

11.4.2.4. Plumbing

(1) The *performance level* of an existing *building* is reduced where the existing *building* is extended or subject to material alteration or

repair, and *plumbing* in the existing *building* is adversely affected by the extension, alteration or repair.

11.4.3. Compensating Construction

11.4.3.1. General

(1) Where the *performance level* of an existing *building* is reduced under Subsection 11.4.2., compensating *construction* shall be carried out in accordance with this Subsection.

(2) Except as provided in Sentence (3) compensating *construction* required under this Subsection applies to the part of the *building* being altered and shall include

- (a) *fire separations*, with the required *fire-resistance ratings*, separating the part being altered from the *floor areas* immediately above and below and from the immediate adjacent areas, and
- (b) *access to exits* and *exits* from the *building*, where the alteration adversely affects the *exit system* of the *building*.

(3) Compensating *construction* required under this Subsection applies to the existing *building systems* that are adversely affected by the proposed *construction*.

11.4.3.2. Structural

(1) Where the *performance level* of an existing *building* is reduced under Sentence 11.4.2.1.(1)

- (a) remedial measures shall be taken to support the proposed loads, or
- (b) the portion of the floor affected by the proposed loads shall be restricted to the loading it will support and signs stating the restrictions shall be posted.

11.4.3.3. Increase in Occupant Load

(1) Where the *performance level* of an existing *building* is reduced under Sentences 11.4.2.2.(1), (2) or (3) the *building* shall be evaluated, and the early warning and evacuation systems shall be upgraded, in conformance with the applicable requirements of Table 11.4.3.3.

(2) Sentence (1) does not apply in a Group C *occupancy* where the new total *occupant load* is

- (a) 14 persons or less in a *boarding, lodging or rooming house*, except that where the *occupant load* is between 10 and 15 persons, an interconnected system of *smoke alarms* in corridors near stairways is required, or
- (b) 16 persons or less in a *building* containing residential *suites* which are *dwelling units*, except that where the *occupant load* is between 10 and 17 persons, an interconnected system of *smoke alarms* in corridors near stairways is required.

(3) Where the *performance level* of an existing *building* is reduced under Sentence 11.4.2.2.(1), additional *construction* shall be required in order that the *building* or part of the *building* subject to the increase in *occupant load* conforms to the requirements of Articles 3.7.4.2. and 9.31.1.1.

11.4.3.4. Change in Major Occupancy

(1) Where the *performance level* of an existing *building* is reduced under Sentence 11.4.2.3.(1), additional upgrading shall be required in conformance with Table 11.4.3.4.A. and so that the *construction index* of the *building* is increased to at least equal the *hazard index* of the new *major occupancy* that the *building* is to support.

(2) Where the *performance level* of an existing building is reduced under Sentence 11.4.2.3.(1), additional *construction* shall be required in order that the building or part of the building subject to change of *major occupancy* conforms to the requirements of Subsection 3.2.6., Sections 3.7., 3.11., 9.5., and 9.7., Subsections 9.10.16., Sections 9.31. and 9.32., and Subsections 9.34.1., 9.34.2., and 9.34.3. as they apply to the new *major occupancy* that the building or part of the building is to support.

(3) Where the *performance level* of an existing building is reduced under Sentence 11.4.2.3.(3), the building shall be evaluated, and the early warning and evacuation systems shall be upgraded, in conformance with the applicable requirements of Table 11.4.3.3.

(4) Where the *performance level* of an existing building is reduced under Sentence 11.4.2.3.(4), upgrading of those systems shall be required in conformance with the applicable requirements of Article 3.1.3.1. and Table 11.4.3.4.B.

(5) Where the *performance level* is reduced under Sentence 11.4.2.3.(5) the requirement for *noncombustible construction* is satisfied if the building is *sprinklered*.

11.4.3.5. Plumbing

(1) Where the *performance level* of an existing building is reduced under Sentence 11.4.2.4.(1), upgrading of *plumbing* in the existing building which is adversely affected by the extension, alteration or repair shall be required in conformance with Part 7.

Section 11.5. Compliance Alternatives and Alternative Measures

11.5.1. Compliance Alternatives

11.5.1.1. Compliance Alternatives

(1) A *compliance alternative* shown in Tables 11.5.1.1.A., 11.5.1.1.B., 11.5.1.1.C., 11.5.1.1.D/E. or 11.5.1.1.F. may be substituted

for a requirement contained in Part 3, 4, 5, 6 or 7 where the *chief building official* is satisfied that compliance with the requirement is impracticable because

- (a) of structural or *construction* difficulties, or
- (b) it is detrimental to the preservation of a *heritage building*.

(2) A *compliance alternative* shown in Tables 11.5.1.1.A., 11.5.1.1.B., 11.5.1.1.C., 11.5.1.1.D/E. or 11.5.1.1.F. may be substituted for a requirement contained in Part 9 without satisfying the *chief building official* that compliance with the requirement is impracticable.

11.5.2. Alternative Measures

11.5.2.1. Alternative Measures

(1) An *alternative measure* may be utilized where the *chief building official* is satisfied that

- (a) compliance with the requirement of Part 3, 4, 5, 6, 7 or 9 of the Code or with the *compliance alternative*, as the case may be, is impracticable because

- (i) of structural or *construction* difficulties, or

- (ii) it is detrimental to the preservation of a *heritage building*, and

- (b) the *performance level* of the building after the use of the *alternative measure* shall not be less than the *performance level* of the building prior to *construction*.

Table 11.2.1.1.A.
Construction Index
Forming Part of Sentence 11.2.1.1.(1)

| Fire-Resistance Rating | | | Type of Construction | C.I.(2) |
|------------------------|--------------|--------|----------------------|---------|
| Floors over Basement | Other Floors | Roof | | |
| 3 h | 3 h | 1.5 h | Noncombustible | 8 (1) |
| 2 h | 2 h | 1 h | Noncombustible | 7 |
| 1 h | 1 h | 45 min | Noncombustible | 6 |
| 45 min | 45 min | 0 h | Noncombustible | 5 |
| 45 min | 45 min | 45 min | Heavy Timber | 5 |
| 45 min | 45 min | 45 min | Combustible | 5 |
| 45 min | 0 h | 0 h | Noncombustible | 4 |
| 45 min | 45 min | 0 h | Combustible | 4 |
| 30 min | 0 h | 0 h | Noncombustible | 3 |
| 30 min | 30 min | 0 h | Combustible | 3 |
| 0 h | 30 min | 0 h | Combustible | 2 |
| 0 h | 0 h | 0 h | Combustible | 1 (1) |
| Column 1 | 2 | 3 | 4 | 5 |

Notes to Table 11.2.1.1.A.:

- (1) C.I. of 1 is lowest fire protection *performance level* and C.I. of 8 is highest.
- (2) Take highest rating for C.I. from Table 11.2.1.1.A. for existing building.

Table 11.2.1.1.B.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group A Division 1 | Occupancy H.I. ⁽⁵⁾ | | | (1) (2) |
|---------------------------------------|-------------------------------|--------|-------|------------|
| | Small | Medium | Large | |
| Dinner Theatres | 4 | 5 | 6 | |
| Live Theatres | 4 | 5 | 6 | |
| Motion Picture Theatres | 4 | 5 | 6 | |
| Opera Houses | 4 | 5 | 6 | |
| Television Studios (With Audience) | 4 | 5 | 6 | |
| Column 1 | 2 | 3 | 4 | |

Notes to Table 11.2.1.1.B.:

(1)

| Building Size (Maximum) ⁽²⁾ ⁽³⁾ | |
|---|----------|
| – 300 occupant load maximum / 1 storey | Small |
| – 600 m ² / 600 occupant load maximum / 1 storey with less than 40% 2 storey ⁽⁶⁾ | Medium |
| – Any area / not exceeding 18 m in building height | Large |
| – Over 18 m in building | H.I. = 7 |

(2) Sizes are based on *building area* and *building height*.(3) *Building* size is based on the existing *building* facing one *street*.(4) For existing *buildings* facing multiple *streets* see Sentence 11.2.1.1.(2) and Table 11.4.3.4.A.(5) Take lowest rating for H.I. from Table for *major occupancy change*.(6) *Building* may have less than 40% of its area as 2 storey for purposes as described in Clauses 3.2.2.21.(1)(b) and (c).

Table 11.2.1.1.C.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group A Division 2 | Occupancy H.I. ⁽⁵⁾ | | | (1) (2) |
|--------------------------------------|-------------------------------|--------|-------|------------|
| | Small | Medium | Large | |
| Art Galleries | 3 | 4 | 6 | |
| Auditoria | 3 | 4 | 6 | |
| Billiard Halls, Amusement Arcades | 3 | 4 | 6 | |
| Bowling Alleys | 3 | 4 | 6 | |

| | | | |
|-------------------------------------|---|-------------|---|
| Churches | 3 | 4 | 6 |
| Clubs, Lodges (Non-Residential) | 3 | 4 | 6 |
| Community Halls | 3 | 4 | 6 |
| Concert Halls | 3 | 4 | 6 |
| Court Rooms | 3 | 4 | 6 |
| Dance Halls | 3 | 4 | 6 |
| Daycare Centres | 3 | 4 | 6 |
| Exhibition Halls (Without Sales) | 3 | 4 | 6 |
| Exhibition Halls (With Sales) | 3 | See Group E | |
| Gymnasias (Multi-Purpose) | 3 | 4 | 6 |
| Gymnasias (Athletic) | 3 | 4 | 6 |
| Lecture Halls | 3 | 4 | 6 |
| Libraries | 3 | 4 | 6 |
| Licensed Beverage Establishments | 3 | 4 | 6 |
| Licensed Clubs, Lodges | 3 | 4 | 6 |
| Museums | 3 | 4 | 6 |
| Passenger Stations/Depots | 3 | 4 | 6 |
| Public Heritage Buildings | 3 | – | – |
| Recreational Piers | 3 | 4 | 6 |
| Restaurants | 3 | 4 | 6 |
| School, Colleges | 3 | 4 | 6 |
| Undertaking Premises | 3 | 4 | 6 |
| Column 1 | 2 | 3 | 4 |

Notes to Table 11.2.1.1.C.:

(1)

| Building Size (Maximum) ⁽²⁾ ⁽³⁾ | |
|--|----------|
| – 400 m ² / 1 storey | Small |
| – 250 m ² / 3 storey (Public Heritage Building) | Small |
| – 800 m ² / 2 storey | Medium |
| – Any area / not exceeding 18 m in building height | Large |
| – Over 18 m in building height | H.I. = 7 |

(2) Sizes are based on *building area* and *building height*.(3) *Building* size is based on the existing *building* facing one *street*.(4) For existing *buildings* facing multiple *streets* see Sentence 11.2.1.1.(2) and Table 11.4.3.4.A.(5) Take lowest rating for H.I. from Table for *major occupancy change*.(6) *Building* exceeding 3 storeys in building height and which are combustible shall be sprinklered.

Table 11.2.1.1.D.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group A Division 3 | Occupancy H.I. ⁽⁵⁾ | | |
|--|-------------------------------|--------|-------|
| | Small | Medium | Large |
| Arenas (No Occupancy On Activity Surface) | 3 | 4 | 6 |
| Armouries (No Occupancy On Activity Surface) | 3 | 4 | 6 |
| Enclosed Stadia or Grandstand | 3 | 4 | 6 |
| Ice Rinks (No Occupancy On Activity Surface) | 3 | 4 | 6 |
| Indoor Swimming Pools | 3 | 4 | 6 |
| Column 1 | 2 | 3 | 4 |

Notes to Table 11.2.1.1.D.:

(1)

| Building Size (Maximum) ^{(2) (3)} | |
|--|----------|
| - 1000 m ² / 1 storey | Small |
| - 2000 m ² / 2 storey | Medium |
| - Any area / not exceeding 18 m in building height | Large |
| - Over 18 m in building height | H.I. = 7 |

(2) Sizes are based on *building area* and *building height*.(3) *Building size* is based on the existing *building* facing one *street*.(4) For existing *buildings* facing multiple *streets* see Sentence 11.2.1.1.(2) and Table 11.4.3.4.A.(5) Take lowest rating for H.I. from Table for *major occupancy change*.

Table 11.2.1.1.E.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group A Division 4 | Occupancy H.I. ⁽⁵⁾ | | |
|---------------------------|-------------------------------|--------|-------|
| | Small | Medium | Large |
| Amusement Park Structures | 2 | 3 | 5 |
| Bleachers | 1 | 3 | 5 |
| Grandstands (Open) | 1 | 3 | 5 |
| Reviewing Stands | 1 | 3 | 5 |
| Stadia (Open) | 1 | 3 | 5 |
| Column 1 | 2 | 3 | 4 |

Notes to Table 11.2.1.1.E.:

(1)

| Building Size (Maximum) ^{(2) (3)} | |
|---|--------|
| - 2500 occupant load max./min. limiting distance of 6 m (combustible) | Small |
| - 15,000 occupant load maximum (with roof at least ½ rating if combustible) | Medium |
| - Unlimited occupant load | Large |

(2) Sizes are based on *building area* and *building height*.(3) *Building size* is based on the existing *building* facing one *street*.(4) For existing *buildings* facing multiple *streets* see Sentence 11.2.1.1.(2) and Table 11.4.3.4.A.(5) Take lowest rating for H.I. from Table for *major occupancy change*.

Table 11.2.1.1.F.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group B Division 1 | Occupancy H.I. ⁽³⁾⁽⁵⁾ | | |
|--|----------------------------------|--------|-------|
| | Small | Medium | Large |
| Detention Facilities (Minimum Security) ⁽⁴⁾ | 4 | 5 | 6 |
| Detention Facilities (All other types of security) | 6 | 6 | 7 |
| Police Station with Detention | 3 | - | - |
| Column 1 | 2 | 3 | 4 |

Notes to Table 11.2.1.1.F.:

(1)

| Building Size (Maximum) ⁽²⁾ | |
|--|----------|
| - Any area / 1 storey | Small |
| - 600 m ² / 1 storey (Police Station with Detention) | Small |
| - Any area (noncombustible) / 2 storey | Medium |
| - Any area (noncombustible); 500 m ² (combustible) / 2 storey | Large |
| - Over 18 m in building height (noncombustible) | H.I. = 7 |
| - Over 500 m ² (combustible) / over 2 storey | H.I. = 7 |

(2) Sizes are based on *building area* and *building height*.(3) When the size of a *building* falls into more than one category, the H.I. for the least restrictive is permitted to be used.(4) Minimum security - means occupants free to *exit* building in a fire emergency.(5) *Detention occupancy* with any H.I. shall be *sprinklered*.

Table 11.2.1.1.G.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group B Division 2 | Occupancy H.I. (5) (7) | | |
|---|------------------------|--------|-------|
| | Small | Medium | Large |
| Hospital, Nursing home, Geriatric, Sanitorium ⁽⁶⁾ (Immobile) | 4 | 5 | 7 |
| Hospital, Nursing Home, Geriatric, Sanitorium ⁽⁶⁾ (Non-Ambulatory) | 4 | 5 | 6 |
| Hospital, Nursing Home, Geriatric, Sanitorium ⁽⁶⁾ (Ambulatory) | 3 | 4 | 6 |
| Psychiatric Hospitals (Maximum Confinement) | 4 | 5 | 7 |
| Psychiatric Hospitals (Minimum Confinement) | 3 | 4 | 6 |
| Police Station With Detention | 3 | 3 | — |
| Column 1 | 2 | 3 | 4 |

Notes to Table 11.2.1.1.G.:

(1)

| Building Size (Maximum) ⁽²⁾⁽³⁾ | |
|---|----------|
| – 250 m ² / 1 storey | Small |
| – 600 m ² / 1 storey (Police Station with Detention) | Small |
| – 500 m ² / 2 storey; 1000 m ² / 1 storey | Medium |
| – Any area (noncombustible); 500 m ² (combustible) / 2 storey | Medium |
| – Any area /not exceeding 18 m in building height | Large |
| – Over 18 m in building height | H.I. = 7 |

(2) Sizes are based on *building area* and *building height*.(3) *Building size* is based on the existing *building* facing one *street*.(4) For existing *buildings* facing multiple *streets* see Sentence 11.2.1.1.(2) and Table 11.4.3.4.A.(5) When the *size* of a *building* falls into more than one category, the H.I. for the least restrictive is permitted to be used.

(6) Immobile-means patients attached to life support systems and cannot be moved. Non-Ambulatory-means patients confined to bed and require transportation. Ambulatory-means patients may walk on their own.

(7) *Care and treatment occupancy* with any H.I. shall be *sprinklered*.

Table 11.2.1.1.H.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group B Division 3 | Occupancy H.I. ⁽⁴⁾⁽⁵⁾ | | |
|---|----------------------------------|--------|--------|
| | Small | Medium | Large |
| Residential care facilities (Ambulatory) (Non-Ambulatory) | 3 4 | 4 5 | 6 6 |
| Children Custodial Homes | 3 | 4 | 6 |
| Convalescent Homes (Ambulatory) (Non-Ambulatory) | 3 4 | 4 5 | 6 6 |
| Orphanages | 3 | 4 | 6 |
| Sanatoria Without Detention Quarter (Min. Confinement) (Max. Confinement) | 3 4 | 4 5 | 6 6 |
| Group Homes For Developmentally Handicapped Residents (Min. Confinement) (Max. Confinement) | 3 4 | 4 5 | 6 6 |
| Column 1 | 2 | 3 | 4 |

Notes to Table 11.2.1.1.H.:

(1)

| Building Size (Maximum) ⁽²⁾⁽³⁾ | |
|---|----------|
| – 600 m ² / 1 storey | Small |
| – 500 m ² / 2 storey; 1000 m ² / 1 storey | Medium |
| – Any area /not exceeding 18 m in building height | Large |
| – Over 18 m in building height | H.I. = 7 |

(2) Sizes are based on *building area* and *building height*.(3) *Building sizes* is based on the existing *building* facing one *street*.(4) When the *size* of a *building* falls into more than one category, the H.I. for the least restrictive is permitted to be used.(5) *Care occupancy* with any H.I. shall be *sprinklered*.

Table 11.2.1.1.I.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group C | Occupancy H.I. ⁽⁴⁾ | | | (1) (2) |
|-----------------------------|-------------------------------|--------|-------|------------|
| | Small | Medium | Large | |
| Apartments | 3 | 4 | 6 | |
| Boarding Houses/Group Homes | 3 | — | — | |
| Clubs, Residential | 3 | 4 | 6 | |
| Colleges, Residential | 3 | 4 | 6 | |
| Convents | 3 | 4 | 6 | |
| Dormitories/Hostels | 3 | 4 | 6 | |
| Hotels | 3 | 5 | 6 | |
| Houses, S.F. | 2 | 2 | — | |
| Live / Work Units | 4 | 5 | 7 | |
| Lodging Houses | 3 | — | — | |
| Monasteries | 3 | 4 | 6 | |
| Public Heritage Buildings | 3 | — | — | |
| Rectories | 2 | — | — | |
| Retirement Homes | 3 | 4 | 6 | |
| Rooming Houses | 3 | — | — | |
| Schools, Residential | 3 | 4 | 6 | |
| Column 1 | 2 | 3 | 4 | |

Notes to Table 11.2.1.1.I.:

(1)

| Building Size (Maximum) ⁽²⁾⁽³⁾ | |
|---|----------|
| — 600 m ² / 3 storey | Small |
| — 250 m ² / 3 storey (Public Heritage Building) | Small |
| — 2000 m ² / not exceeding 6 storeys | Medium |
| — Any area / not exceeding 36 m in building height | Large |
| — Over 36 m in building height | H.I. = 7 |
| — Hotels over 18 m high, measured between grade and the floor level of the top storey | H.I. = 7 |

(2) Sizes are based on building area and building height.

(3) Building exceeding 3 storeys in building height and which are combustible shall be sprinklered.

(4) Take lowest rating for H.I. from Table for major occupancy change.

Table 11.2.1.1.J.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group D | Occupancy H.I. ⁽⁵⁾ | | | (1) (2) |
|--|-------------------------------|--------|-------|------------|
| | Small 1 | Medium | Large | |
| Advertising and Sales Offices | 3 | 3 | 5 | |
| Automatic Bank Deposit | 3 | 4 | 5 | |
| Barber/Hairdresser Shops | 3 | 4 | 5 | |
| Beauty Parlours | 3 | 4 | 5 | |
| Branch Banks | 3 | 4 | 5 | |
| Car Rental Premises | 3 | 3 | 5 | |
| Chiropractic Offices | 3 | 4 | 5 | |
| Communications Offices (Telephone E.) | 3 | 4 | 5 | |
| Communications Offices (Telex) | 3 | 4 | 5 | |
| Communications Offices (Courier) | 3 | 3 | 5 | |
| Computer Centres | 3 | 4 | 5 | |
| Construction Offices | 3 | 3 | 5 | |
| Costume Rental Premises | 3 | 4 | 5 | |
| Dental Offices (Denture Clinic) | 3 | 4 | 5 | |
| Dental Offices (General) | 3 | 4 | 5 | |
| Dental Offices (Surgical/Anaesthesia) | 4 | 5 | 6 | |
| Dry Cleaning Depots | 3 | 4 | 5 | |
| Dry Cleaning Premises (Self-Serve) | 4 | 4 | 5 | |
| Health/Fitness Clubs | 3 | 4 | 5 | |
| Laundries (Self-Serve) | 4 | 4 | 5 | |
| Massage Parlours | 3 | 4 | 5 | |
| Medical Offices (Examination) | 3 | 4 | 5 | |
| Medical Offices (Surgical/Anaesthesia) | 4 | 5 | 6 | |
| Offices (Business) | 3 | 3 | 5 | |
| Offices (Charitable) | 3 | 3 | 5 | |
| Offices (Legal/Accounting) | 3 | 3 | 5 | |
| Offices/Studios (Design) | 3 | 4 | 5 | |
| Pharmacy Offices | 3 | 4 | 5 | |
| Photographic Studios | 3 | 4 | 5 | |
| Physiotherapy Offices | 3 | 4 | 5 | |
| Police Stations (No Detention) | 3 | 4 | 5 | |
| Printing and Duplicating | 4 | 5 | 6 | |

| | | | |
|------------------------------|---|---|---|
| Public Heritage Buildings | 3 | — | — |
| Public Saunas | 3 | 4 | 5 |
| Radio Stations (No Audience) | 3 | 4 | 5 |
| Small Tool Rental Premises | 3 | 4 | 5 |
| Suntan Parlours | 3 | 4 | 5 |
| Veterinary Offices | 3 | 4 | 5 |
| Column 1 | 2 | 3 | 4 |

Notes to Table 11.2.1.1.J.:

(1)

| Building Size (Maximum) (2) (3) | |
|--|----------|
| — 800 m ² / 2 storey | Small |
| — 250 m ² / 3 storey (Public Heritage Building) | Small |
| — 1600 m ² / 3 storey | Medium |
| — Any area / not exceeding 18 m in building height | Large |
| — Over 18 m, but not exceeding 36 m in building height | H.I. = 6 |
| — Over 36 m in building height | H.I. = 7 |

(2) Sizes are based on *building area* and *building height*.(3) *Building size* is based on the existing *building* facing one *street*.(4) For existing *buildings* facing multiple *streets* see Sentence 11.2.1.1.(2) and Table 11.4.3.4.A.(5) When the size of a *building* falls into more than one category, the H.I. for the least restrictive is permitted to be used.**Table 11.2.1.1.K.****Hazard Index**

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group E | Occupancy H.I. ⁽⁵⁾ | | |
|---------------------------------------|-------------------------------|--------|-------|
| | Small | Medium | Large |
| Automotive/Hardware Department Stores | 4 | 5 | 7 |
| China Shops | 3 | 4 | 6 |
| Department Stores | 4 | 5 | 7 |
| Electrical Stores (Fixtures) | 3 | 3 | 5 |
| Exhibition Halls (With Sales) | 4 | 5 | 7 |
| "Fast Food" Outlets | 3 | 4 | 5 |
| Feed And Seed Stores | 4 | 5 | 7 |
| Flea Markets | 4 | 5 | 7 |
| Flower Shops | 3 | 4 | 6 |

(1)

(2)

| | | | |
|--|---|---|---|
| "Food" and Vegetable Markets | 3 | 4 | 6 |
| Garden Shops | 3 | 4 | 6 |
| "Gas" Bars | 4 | 5 | 7 |
| Gift Shops | 3 | 4 | 6 |
| Home Improvement Stores | 4 | 5 | 7 |
| Kitchen/Bathroom Cupboards Stores | 3 | 4 | 6 |
| Plumbing Stores (Fixtures/Accessories) | 3 | 3 | 5 |
| "Pop" Shops | 3 | 4 | 6 |
| Public Heritage Buildings | 3 | — | — |
| Rentals (See "D") | — | — | — |
| Restaurants (Not More Than 30 Persons) | 3 | 4 | 5 |
| Shopping Malls | 4 | 5 | 7 |
| Stationary/Office Supply Stores | 3 | 4 | 6 |
| Stores (Art) | 3 | 4 | 6 |
| Stores (Baked Goods) | 3 | 4 | 6 |
| Stores (Beer) | 3 | 4 | 6 |
| Stores (Book) | 3 | 4 | 6 |
| Stores (Camera) | 3 | 4 | 6 |
| Stores (Candy) | 3 | 4 | 6 |
| Stores (Clothing) | 3 | 4 | 6 |
| Stores (Drugs) | 4 | 4 | 6 |
| Stores (Electronic) | 3 | 4 | 6 |
| Stores (Floor Coverings) | 4 | 5 | 7 |
| Stores (Food) | 3 | 3 | 6 |
| Stores (Furniture/Appliances) | 3 | 4 | 6 |
| Stores (Hardware) | 4 | 5 | 7 |
| Stores (Health) | 4 | 4 | 6 |
| Stores (Hobby) | 3 | 4 | 6 |
| Stores (Jewellery) | 3 | 3 | 5 |
| Stores (Paint/Wallpaper) | 4 | 5 | 7 |
| Stores (Pet) | 3 | 4 | 6 |
| Stores (Records/Tapes) | 3 | 4 | 6 |
| Stores (Spirits) | 4 | 5 | 7 |
| Stores (Toys) | 4 | 5 | 7 |
| Stores (Variety) | 4 | 4 | 6 |
| Stores (Video Sales/Rental) | 3 | 4 | 6 |
| Supermarkets | 3 | 4 | 6 |
| Column 1 | 2 | 3 | 4 |

Notes to Table 11.2.1.1.K.:

(1)

| Building Size (Maximum) ^{(2) (3)} | |
|--|----------|
| – 600 m ² / 2 storey | Small |
| – 250 m ² / 3 storey (Public Heritage Building) | Small |
| – 800 m ² / 3 storey | Medium |
| – Any area / up to 18 m in building height | Large |
| – Over 18 m in building height | H.I. = 7 |

(2) Sizes are based on *building area* and *building height*.(3) *Building size* is based on the existing *building* facing one *street*.(4) For existing *buildings* facing multiple *streets* see Sentence 11.2.1.1.(2) and Table 11.4.3.4.A.(5) When the size of a *building* falls into more than one category, the H.I. for the least restrictive is permitted to be used.(6) All *buildings* 1,500 m² and over are to be *sprinklered*.

Table 11.2.1.1.L.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group F Division 1 | Occupancy H.I. ⁽³⁾ | | |
|---|-------------------------------|--------|-------|
| | Small | Medium | Large |
| Ammunition Manufacturing and Storage | 3 | 6 | 8 |
| Black Powder Manufacturing and Storage | 3 | 6 | 8 |
| Bulk Plants for Flammable Liquids | 3 | 6 | 8 |
| Bulk Storage Warehouse (Hazardous Substances) | 3 | 6 | 8 |
| Cereal and Feed Mills | 3 | 6 | 8 |
| Chemical Manufacturing/Processing Plant | 3 | 6 | 8 |
| Distilleries | 3 | 6 | 8 |
| Dry Cleaning Plants (Flammable) | 3 | 6 | 8 |
| Explosives Manufacturing and Storage | 3 | 6 | 8 |
| Fertilizer Manufacturing Plants | 3 | 6 | 8 |
| Fireworks Manufacturing and Storage | 3 | 6 | 8 |
| Flour Mills | 3 | 6 | 8 |
| Gas (Flammable) Compressor Stations | 3 | 6 | 8 |
| Gas (Flammable) Manufacturing and Storage | 3 | 6 | 8 |
| Grain Elevators | 3 | 6 | 8 |
| Lacquer Factories | 3 | 6 | 8 |
| Loading Areas (for all Group F, Division 1) | 3 | 6 | 8 |

(1)

(2)

| | | | |
|-------------------------------------|---|---|---|
| Mattress Factories (High Fire Load) | 3 | 6 | 8 |
| Paint/Varnish/Pyroxylin Factories | 3 | 6 | 8 |
| Petrochemical Plants | 3 | 6 | 8 |
| Refineries | 3 | 6 | 8 |
| Rubber Processing Plants | 3 | 6 | 8 |
| Spray Painting Operations | 3 | 6 | 8 |
| Waste Paper Processing Plants (Dry) | 3 | 6 | 8 |
| Column 1 | 2 | 3 | 4 |

Notes to Table 11.2.1.1.L.:

(1)

| Building Size (Maximum) ⁽²⁾ | |
|--|--------|
| – 400 m ² / 2 storey | Small |
| – 600 m ² / 4 storey | Medium |
| – 1500 m ² / 4 storey | Large |

(2) Sizes are based on *building area* and *building height*.(3) When the size of a *building* falls into more than one category, the H.I. for the least restrictive is permitted to be used.(4) All *buildings* 1,500 m² and over are to be *sprinklered*.(5) All floor assemblies shall be *fire separations*.

Table 11.2.1.1.M.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group F Division 2 | Occupancy H.I. ⁽⁵⁾ | | |
|--|-------------------------------|--------|-------|
| | Small | Medium | Large |
| Aircraft Hangars | 3 | 5 | 6 |
| Abattoirs | 3 | 4 | 5 |
| Bakeries | 3 | 5 | 6 |
| Body Shops | 3 | 5 | 6 |
| Candy Plants | 3 | 4 | 5 |
| COLD STORAGE PLANTS | | | |
| Combustible Insulation | | | |
| Flammable Refrigerant | | | |
| Combustible Packaging | 3 | 5 | 7 |
| Combustible Insulation | | | |
| Flammable Refrigerant | | | |
| Noncombustible Packaging | 3 | 5 | 6 |
| Combustible Insulation | | | |
| Non-Flammable Refrigerant | | | |
| Noncombustible Packaging | 3 | 4 | 5 |
| Noncombustible Insulation | | | |
| Non-Flammable Refrigerant | | | |
| Noncombustible Packaging | 2 | 3 | 4 |
| Dry Cleaning Establishments (non-flammable or non-explosive) | 3 | 4 | 5 |

(1)

(2)

Notes to Table 11.2.1.1.M.:

(1)

| | | | |
|--|---|---|---|
| Electrical Substations | 3 | 4 | 5 |
| Factories (High Fire Load) | 3 | 5 | 6 |
| Freight Depots (High Fire Load) | 3 | 5 | 6 |
| Helicopter Landings (on roof) | 3 | 4 | 5 |
| Laboratories (High Fire Load) | 3 | 5 | 6 |
| Laundries (not self-serve) | 3 | 4 | 5 |
| Manufacturer Sales (High Fire Load) | 3 | 5 | 6 |
| Mattress Factories | 3 | 4 | 5 |
| Meat Packing Plants | 3 | 4 | 5 |
| Packaging Manufacturers (Cellulose) | 3 | 4 | 5 |
| Packaging Manufacturers (Noncombustible) | 2 | 3 | 4 |
| Packaging Manufacturers (Plastics) | 3 | 5 | 6 |
| Paper Processing Plants (Wet) | 3 | 5 | 6 |
| Planing Mills | 3 | 5 | 6 |
| Printing Plants | 3 | 4 | 5 |
| Public Heritage Buildings | 3 | 3 | — |
| Repair Garages | 3 | 5 | 6 |
| Sample Display Rooms (High Fire Load) | 3 | 5 | 6 |
| Self-Service Storage Buildings | 3 | 4 | 5 |
| Service Stations (no spray painting) | 3 | 5 | 6 |
| Storage Rooms (High Fire Load) | 3 | 5 | 6 |
| Television Studios (no audience) | 3 | 4 | 5 |
| Tire Storage | 3 | 5 | 6 |
| Warehouses (High Fire Load) | 3 | 5 | 6 |
| Welding Shops | 3 | 5 | 6 |
| Wholesale Rooms (High Fire Load) | 3 | 5 | 6 |
| Wood Working Factories | 3 | 5 | 6 |
| Workshops (High Fire Load) | 3 | 5 | 6 |
| Column 1 | 2 | 3 | 4 |

Building Size (Maximum) (2)(3)

| | |
|--|----------|
| – 600 m ² / 2 storey | Small |
| – 800 m ² / 4 storey | Medium |
| – 600 m ² / 3 storey (Public Heritage Building) | Medium |
| – 1500 m ² / 6 storey not exceeding 18 m in building height | Large |
| – Over 18 m in building height | H.I. = 7 |

(2) Sizes are based on building area and building height.

(3) Building size is based on the existing building facing one street.

(4) For existing buildings facing multiple streets see Sentence 11.2.1.1.(2) and Table 11.4.3.4.A.

(5) When the size of a building falls into more than one category, the H.I. for the least restrictive is permitted to be used.

(6) All buildings 1,500 m² and over are to be sprinklered.

Table 11.2.1.1.N.

Hazard Index

Forming Part of Sentences 11.2.1.1.(1) and (2)

| Group F Division 3 | Occupancy H.I. ⁽⁵⁾ | | |
|--------------------------------------|-------------------------------|--------|-------|
| | Small | Medium | Large |
| Creameries | 2 | 2 | 3 |
| Factories (Low Fire Load) | 2 | 3 | 4 |
| Freight Depots (Low Fire Load) | 2 | 3 | 4 |
| Laboratories (Low Fire Load) | 2 | 3 | 4 |
| Manufacturers Sales (Low Fire Load) | 2 | 3 | 4 |
| Power Plants | 3 | 4 | 5 |
| Public Heritage Buildings | 3 | 3 | — |
| Sample Display Rooms (Low Fire Load) | 2 | 3 | 4 |
| Storage Garages | 2 | 3 | 4 |
| Storage Rooms (Low Fire Load) | 2 | 3 | 4 |
| Warehouses (Low Fire Load) | 2 | 3 | 4 |
| Wholesale Rooms (Low Fire Load) | 2 | 3 | 4 |
| Workshops (Low Fire Load) | 2 | 3 | 4 |
| Column 1 | 2 | 3 | 4 |

(1)

(2)

Notes to Table 11.2.1.1.N.:

(1)

| Building Size (Maximum) (2) (3) | |
|---|----------|
| - 800 m ² / 2 storey | Small |
| - 1200 m ² / 4 storey | Medium |
| - 600 m ² / 3 storey (Public Heritage Building) | Medium |
| - Any area / 6 storey not exceeding 18 m in building height | Large |
| - Over 18 m, but not exceeding 36 m in building height | H.I. = 5 |
| - Over 36 m in building height | H.I. = 6 |

(2) Sizes are based on *building area* and *building height*.(3) *Building* size is based on the existing *building* facing one *street*.(4) For existing *buildings* facing multiple *streets* see Sentence 11.2.1.1.(2) and Table 11.4.3.4.A.(5) When the size of a *building* falls into more than one category, the H.I. for the least restrictive is permitted to be used.

Table 11.4.3.3.

For Evaluation and Upgrading of Early Warning/Evacuation

Forming Part of Sentences 11.4.3.3.(1) and (2)

| Notes | EW/EVAC, Evaluation and Upgrading | Part 11 Compliance Alternative (1) |
|----------|--|---|
| (2) | <p>Early Warning and Evaluation to be checked against</p> <p>(a) <i>access to exit</i> widths based on <i>occupant load</i> in Subsection 3.3.1. or 9.9.3.;</p> <p>(b) <i>exit</i> widths based on <i>occupant load</i> in Subsection 3.4.3. or 9.9.3.;</p> <p>(c) <i>exit</i> signs in Subsection 3.4.5. or 9.9.10.;</p> <p>(d) lighting of <i>exits</i>, lighting of <i>access to exits</i> and emergency lighting in Subsection in Subsection 3.2.7. or 9.9.11.;</p> <p>(e) fire alarm system in Subsection 3.2.4. or 9.10.17.;</p> <p>(f) <i>smoke alarms</i> in Subsection 9.10.18.; and</p> <p>(g) travel distance and number of <i>exits</i> in other Parts of the Code,</p> <p>and deficiencies shall be upgraded.</p> | <p>EARLY WARNING</p> <p>(a) <i>Compliance alternatives</i> as listed may be used.</p> <p>EVACUATION</p> <p>(b) <i>Compliance alternatives</i> as listed to <i>access to exit</i> and <i>exit</i> widths, number of <i>exits</i>, and travel distance may be used.</p> |
| (3) | <p>Early Warning and Evaluation to be checked against</p> <p>(a) <i>access to exit</i> widths based on <i>occupant load</i> in Subsection 3.3.1. or 9.9.3.;</p> <p>(b) <i>exit</i> widths based on <i>occupant load</i> in Subsection 3.4.3. or 9.9.3.;</p> <p>(c) <i>exit</i> signs in Subsection 3.4.5. or 9.9.10.;</p> <p>(d) lighting of <i>exits</i>, lighting of <i>access to exits</i> and emergency lighting in Subsection in Subsection 3.2.7. or 9.9.11.;</p> <p>(e) fire alarm system in Subsection 3.2.4. or 9.10.17.;</p> <p>(f) <i>smoke alarms</i> in Subsection 9.10.18.;</p> <p>(g) travel distance and number of <i>exits</i> in other Parts of the Code; and</p> <p>(h) smoke control measures, and at least one elevator to permit transport of firefighters to all floors in hotels whose floor level is more than 18 m high measured between <i>grade</i> and floor level of the top <i>storey</i> as per Subsection 3.2.6.</p> <p>and deficiencies shall be upgraded.</p> | <p>EARLY WARNING</p> <p>(a) <i>Compliance alternatives</i> as listed may be used.</p> <p>EVACUATION</p> <p>(b) <i>Compliance alternatives</i> as listed to <i>access to exit</i> and <i>exit</i> widths, number of <i>exits</i>, and travel distance may be used.</p> |
| Column 1 | 2 | 3 |

Notes to Table 11.4.3.3.:

(1) See Table 11.5.1.1.A., 11.5.1.1.B., 11.5.1.1.C., 11.5.1.1.D/E. And 11.5.1.1.F. for *Compliance alternatives* that may be used.(2) Applies to change of *major occupancy* to one of equal or lesser hazard.(3) Applies to change of *major occupancy* to one of greater hazard, and to increase in *occupant load* greater than 15%.

Table 11.4.3.4.A.

Additional Upgrading

Forming Part of Sentence 11.4.3.4.(1)

| New Major Occupancy (H.I.) Number (3) | Increase of C.I. to Equal H.I. to Support New Major Occupancy | Additional Required Upgrading | Part 11 Alternative Compliance | Comments |
|---------------------------------------|---|---|---|--|
| H.I.2 | C.I. 1 to 2 | Comply with Table 11.2.1.1.A. ratings for C.I. of 2 | (a) Provide Early Warning system or (b) Comply with any A.C.'s in Col. 4. | |
| H.I.3 | C.I. (1 or 2) to 3 | Comply with Table 11.2.1.1.A. ratings for C.I. of 3 | (a) Provide Early Warning system or (b) Comply with any A.C.'s in Col. 4. | <i>Combustible to Combustible only.</i> |
| H.I.4 | C.I. (1,2 or 3) to 4 | Comply with Table 11.2.1.1.A. ratings for C.I. of 4 | Provide sprinklers in locations where assemblies do not comply with Table 11.2.1.1.A. | <i>Combustible to Combustible. Noncombustible to Noncombustible.</i> |
| H.I.5 | C.I. 4 to 5 | Comply with Table 11.2.1.1.A. ratings for C.I. of 5 | Provide sprinklers in locations where assemblies do not comply with Table 11.2.1.1.A. | |
| H.I.5 | C.I. (1,2 or 3) to 5 | Comply with Table 11.2.1.1.A. ratings for C.I. of 5 | Provide sprinklers in locations where assemblies do not comply with Table 11.2.1.1.A. | <i>Combustible to Combustible. Noncombustible to Noncombustible.</i> |
| H.I.6 | C.I. 5 (<i>Noncombustible</i>) to 6 | Comply with Table 11.2.1.1.A. ratings for C.I. of 6 | (a) Provide sprinkler system, plus 45 min roof rating. | |
| H.I.6 | C.I. 5 (<i>Heavy timber</i>) to 6 | Comply with A.C. | (b) Provide sprinkler system. | |
| H.I.6 | C.I. 5 (<i>Combustible</i>) to 6 | Comply with A.C. | (c) Provide 1 h rating plus sprinkler system. | |
| H.I.6 | C.I. (3 or 4) to 6* | Comply with Table 11.2.1.1.A. ratings for C.I. of 6 | (d) Provide sprinkler system, plus 45 min rating. | <i>*For Noncombustible construction only.</i> |
| H.I.6 | C.I. (1, 2, 3 or 4) to 6** | Comply with A.C. | (e) Provide 1 h rating plus sprinkler system. | <i>**For Combustible construction only.</i> |
| H.I.7 | C.I. 6 to 7 | Comply with Table 11.2.1.1.A. ratings for C.I. of 7 | (a) Provide sprinkler system. | |
| H.I.7 | C.I. (3, 4 or 5) to 7* | Comply with Table 11.2.1.1.A. ratings for C.I. of 7 | (b) Provide 1 h rating plus sprinkler system. | <i>*For Noncombustible construction only.</i> |
| H.I.8 | C.I. 7 to 8 | Comply with Table 11.2.1.1.A. ratings for C.I. of 8 | (a) Provide sprinkler system. | |
| H.I.8 | C.I. 6 to 8 | Comply with Table 11.2.1.1.A. ratings for C.I. of 8 | (b) Provide supervised sprinkler system. | |
| H.I.8 | C.I. (3, 4 or 5) to 8* | Comply with Table 11.2.1.1.A. ratings for C.I. of 8 | (d) Provide sprinkler system, plus 1 h rating. | <i>*For Noncombustible construction only.</i> |
| Column 1 | 2 | 3 | 4 | 5 |

Note to Table 11.4.3.4.A.:

(1) One asterisk (*) refers to *Noncombustible construction*.(2) Two asterisks (**) refers to *Combustible construction*.(3) Group B, occupancy with any H.I. shall be *sprinklered*.

Table 11.4.3.4.B.(1)

Additional Upgrading for Multiple Major Occupancies

Forming Part of Sentences 11.4.2.3.(4) and 11.4.3.4.(3)

| New Major Occupancy | Code Requirements | Part 11 Compliance Alternative | |
|---------------------|---|---|--|
| All (2) | Table 3.1.3.1. and Subsection 9.10.9 Where: 1 h rating required 2 h rating required 3 h rating required | For Existing Building Reduce to 45 min 1.5 h 2 h | If Sprinklered Reduce to 30 min 1 h 1.5 h |
| Column 1 | 2 | 3 | |

Notes to Table 11.4.3.4.B.:

(1) For buildings with multiple major occupancies only, where there is a change in major occupancy.

(2) See Section 11.4.

Table 11.5.1.1.A.

Compliance Alternatives for Assembly Occupancies

Forming Part of Article 11.5.1.1.

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|--|--|
| A1 | 3.1.4.6. | Existing <i>heavy timber construction</i> acceptable where <i>construction</i> is within 90% of member sizes listed in Part 3. |
| A2 | 3.1.5.2.; 3.1.5.3.; 3.1.5.4.; 3.1.5.6. | Existing acceptable. |
| A3 | 3.1.5.7.; 3.1.5.8.; 3.1.5.9.; 3.1.5.10. | Except for exposed foamed plastics, existing acceptable. To match existing, materials may be added from on or off site. |
| A4 | 3.1.5.14.; 3.1.5.15. 3.1.5.20.; 3.1.5.16.; 3.1.5.22. | Existing acceptable. |
| A5 | 3.1.7.1. | <i>Fire-resistance ratings</i> may also be used where they are based on: <ol style="list-style-type: none"> 1. HUD No. 8 Guideline on Fire Ratings of Archaic Materials and Assemblies. 2. Fire Endurance of Protected Steel Columns and Beams, DBR Technical Paper No. 194. 3. Fire Endurance of Unit Masonry Walls, DBR Technical Paper No. 207. 4. Fire Endurance of Light-Framed and Miscellaneous Assemblies, DBR Technical Paper No. 222. |
| A6 | 3.1.7.5.(3) | Existing assemblies required to be of <i>noncombustible construction</i> may be supported by <i>combustible construction</i> having at least the same <i>fire-resistance rating</i> as that supported. |
| A7 | 3.1.8.5.(2) | <ol style="list-style-type: none"> (a) Existing functional and sound doors in existing <i>buildings</i> that are either hollow metal or kalamein and containing wired glass at least 6 mm thick and conforming to Sentence 3.1.8.14.(2) are permitted in lieu of doors not required to exceed 45 min, (b) all existing functional and sound hollow metal or kalamein doors which carry existing 1.5 h labels are acceptable in lieu of current 1.5 h labels and may contain wired glass panels not exceeding 0.0645 m², at least 6 mm thick and conforming to Sentence 3.1.8.14.(2), and (c) every fire door, window assembly or glass block used as a <i>closure</i> in a required <i>fire separation</i> shall be installed in conformance with good engineering practice. |
| A8 | 3.1.8.7.; 3.1.8.8.; 3.1.8.9. | <i>Fire dampers</i> or <i>fire stop flaps</i> are not required to be installed in existing ducts at penetrations of existing <i>fire separations</i> . |
| A9 | 3.1.8.10.(1) | Existing 45 mm solid core wood doors acceptable. |
| A10 | 3.1.8.10.(1) | Existing functionally operable self-closing devices acceptable. |
| A11 | 3.1.8.13. | Existing functionally operable latching devices, excluding draw bolts, are acceptable. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|---|--|
| A12 | 3.1.8.14. | Existing transoms or sidelights located in required <i>fire separations</i> may be retained if wired glass at least 6 mm thick is securely fixed to a steel frame with steel stops. Operable transoms shall be fixed closed. |
| A13 | 3.1.8.15.; 3.1.8.16., 3.1.8.17. | Existing acceptable. |
| A14 | 3.1.11. | Where the concealed space is being materially altered, smoke or heat detection in that space in lieu of firestops and tied into fire alarm system is acceptable. |
| A15 | 3.1.13.10. | Existing acceptable. |
| A16 | 3.2.2.17.(1)(b)and (c) | Existing sprinkler systems need not comply. |
| A17 | 3.2.3. | Existing windows. (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another <i>building</i> , lies not closer than 300 mm from a window in such other <i>building</i> , where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) Except relocation of units, shall be restricted to the same <i>fire compartment</i> and shall conform to the requirements of Articles 3.2.3.13. or 9.10.12.4. where applicable, or (c) Where a <i>building</i> does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient <i>limiting distance</i> , such existing openings are allowed to be relocated provided: (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.14.(2), or (ii) the <i>building</i> is <i>sprinklered</i> . |
| A18 | 3.2.4. | (a) Existing fire alarm system may remain except that Article 3.2.4.5. does not apply where the "Fire Safety Plan" (as described in Subsection 2.8.2. of the Ontario Fire Code) for the <i>building</i> addresses the intent of Subsection 3.2.4. (i.e., "stage" system, electrical supervision, detection as required, Fire Department connection and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system. |
| A19 | 3.2.5.3.(1) and (2) | Existing acceptable. |
| A20 | 3.2.5.5.; 3.2.5.6.;3.2.5.4. | Existing acceptable provided the building is sprinklered. |
| A21 | 3.2.5.7. | Does not apply, except where a change in <i>major occupancy</i> occurs from a lesser <i>hazard index</i> . |
| A22 | 3.2.5.13. | Existing sprinkler systems in existing <i>buildings</i> that do not conform to NFPA 13 may be altered, added to, or extended from the existing system without complying with NFPA 13, provided the system is operational and adequate with respect to coverage, water supply and controls, and provided the system is evaluated by a qualified designer. |
| A23 | 3.2.6. Additional requirements for high buildings | Reserved |
| A24 | 3.2.9. | (a) Does not apply to <i>buildings</i> 6 storeys and less. (b) Does not apply to <i>sprinklered buildings</i> . |
| A25 | 3.3.1.5. | One egress door is allowed where the <i>occupant load</i> is not greater than 100 persons, provided <i>floor area</i> is <i>sprinklered</i> and travel distance does not exceed 25 m. |
| A26 | 3.3.1.9. | Existing width of <i>public corridors</i> of not less than 914 mm is acceptable. |
| A27 | 3.3.1.9.(8) | An existing dead-end corridor is permitted where the <i>occupant load</i> is not greater than 20 persons, provided travel distance is not greater than 6 m plus corridor width to "exit choice" point. |
| A28 | 3.3.1.10.; 3.3.1.11. | Existing door swings may remain in <i>heritage buildings</i> , existing or being restored, with no change in <i>major occupancy</i> and with <i>occupant load</i> no greater than 100. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|---------------------------------|--|
| A29 | 3.3.1.12. | Existing doors may remain in a <i>heritage building</i> , existing or being restored, with no change in <i>major occupancy</i> . |
| A30 | 3.3.1.18. | Existing stained, etched, bevelled, leaded or figured glass acceptable. |
| A31 | 3.3.2.12. | Reserved |
| A32 | 3.3.5.4.(1); 3.3.5.7.(1) to (3) | Need not comply where a gasketed door and self closer are provided in the existing <i>fire separation</i> . |
| A33 | 3.4.1.5. (1) | Existing acceptable. |
| A34 | 3.4.1.5.(2) | Existing acceptable provided the existing guard is not less than 914 mm. |
| A35 | 3.4.1.8. | Existing stained, etched, bevelled, leaded or figured glass acceptable. |
| A36 | 3.4.2.5.(1) | Existing travel distance acceptable where <i>floor area</i> is <i>sprinklered</i> and where there is no change in <i>major occupancy</i> . |
| A37 | 3.4.3.1.(2) | Existing width of <i>exits</i> acceptable provided the occupant load is not more than 15% above the exit capacity. |
| A38 | 3.4.3.3.(1) | Need not comply where there is no increase in <i>occupant load</i> . |
| A39 | 3.4.3.5. | Existing acceptable. |
| A40 | 3.4.3.6. | Existing headroom clearance of not less than 1 980 mm is acceptable. |
| A41 | 3.4.4.4.(7) | Existing washrooms opening directly into an <i>exit</i> stairwell shall be separated from the <i>exit</i> stairwell by a 45 min <i>closure</i> . |
| A42 | 3.4.5.1.(2) and (7) | Existing illuminated legible <i>exit</i> signs are acceptable. |
| A43 | 3.4.6.2. | Existing acceptable, if visually apparent. |
| A44 | 3.4.6.3. | Existing acceptable. |
| A45 | 3.4.6.4.(2) to (8) | Existing acceptable. |
| A46 | 3.4.6.5.(2), (4) and (5) | Existing acceptable. |
| A47 | 3.4.6.6.(1) | Existing acceptable. |
| A48 | 3.4.6.7.; 3.4.6.8. | Existing acceptable. |
| A49 | 3.4.6.10.(1), (2) and (4) | Existing acceptable. |
| A50 | 3.4.6.11. | Existing acceptable in <i>public heritage buildings</i> or a change in <i>occupancy</i> with no increase in <i>occupant load</i> . |
| A51 | 3.4.6.15.(2) and (3) | Existing functionally operable panic hardware acceptable. |
| A52 | 3.4.7.2. | <i>Combustible</i> fire escapes which are protected from fire in accordance with Sentence 3.2.3.13.(2) are permitted or may be reconstructed or recreated (as in the case of a <i>heritage building</i>). |
| A53 | 3.5.1. | Existing acceptable. |
| A54 | 3.6.2.1.(5) | Existing <i>fire separation</i> of not less than 30 min is acceptable. |
| A55 | 3.6.2.3. | Existing acceptable where explosion-resistant <i>construction</i> or venting is provided. |
| A56 | 3.6.2.7. | Existing acceptable. |
| A57 | 3.6.2.8.(1) | 2 h <i>fire separation</i> acceptable. |
| A58 | 3.6.3.1.(1) to (5) | 45 min <i>fire separation</i> acceptable. |
| A59 | 3.6.3.3.(1) to (5) and (8) | Existing acceptable. |
| A60 | 3.6.3.3.(9) | 1 h if <i>sprinklered</i> . |
| A61 | 3.6.3.3.(10) | Existing acceptable. |
| A62 | 3.6.3.4. | Existing acceptable. |
| A63 | 3.6.4. | Existing acceptable. |
| A64 | 3.7.1.3.(3) | 2.1 m is acceptable. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|---|
| A65 | 3.7.2.1.(3) | The minimum glass areas may be reduced by 50%. |
| A66 | 3.7.4.2. | Where the <i>occupant load</i> is increased by more than 15% above the capacity of the existing facilities, facilities to be added to accommodate the increase. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 4 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|--|
| A67 | 4.1.9. | The requirements under this Subsection do not apply. |
| Col. 1 | 2 | 3 |

Table 11.5.1.1.B.

Compliance Alternatives for Care or Detention Occupancies

Forming Part of Article 11.5.1.1.

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|---|--|
| B1 | 3.1.5.2.; 3.1.5.3.; 3.1.5.4.; 3.1.5.6. | Existing acceptable. |
| B2 | 3.1.5.7.; 3.1.5.8.; 3.1.5.9.; 3.1.5.10. | Except for exposed foamed plastics, existing acceptable. |
| B3 | 3.1.5.13.; 3.1.5.14.; 3.1.5.15.; 3.1.5.16.; 3.1.5.20.; 3.1.5.22. | Existing acceptable. |
| B4 | 3.1.7.1. | <i>Fire-resistance ratings</i> may also be used where they are based on: <ol style="list-style-type: none"> 1. HUD No. 8 Guideline on Fire Ratings of Archaic Materials and Assemblies. 2. Fire Endurance of Protected Steel Columns and Beams, DBR Technical Paper No. 194. 3. Fire Endurance of Unit Masonry Walls, DBR Technical Paper No 207. 4. Fire Endurance of Light-Framed and Miscellaneous Assemblies, DBR Technical Paper No. 222. |
| B5 | 3.1.7.5.(3) | Existing assemblies required to be of <i>noncombustible construction</i> may be supported by <i>combustible construction</i> having at least the same <i>fire-resistance rating</i> as that supported. |
| B6 | 3.1.8.5.(2) | <ol style="list-style-type: none"> (a) Existing functional and sound doors in existing <i>buildings</i> that are either hollow metal or kalamein and containing wired glass at least 6 mm thick and conforming to Sentence 3.1.8.14.(2) are permitted in lieu of doors not required to exceed 45 min, (b) all existing functional and sound hollow metal or kalamein doors which carry existing 1.5 h labels are acceptable in lieu of current 1.5 h labels and may contain wired glass panels not exceeding 0.0645 m², at least 6 mm thick and conforming to Sentence 3.1.8.14.(2), and (c) every fire door, window assembly or glass block used as a <i>closure</i> in a required <i>fire separation</i> shall be installed in conformance with good engineering practice. |
| B7 | 3.1.8.7.; 3.1.8.8.; 3.1.8.9. | <i>Fire dampers</i> or <i>fire stop flaps</i> are not required to be installed in existing ducts at penetrations of existing <i>fire separations</i> . |
| B8 | 3.1.8.10.(1) | For existing unlabelled doors in existing <i>buildings</i> , at least 45 mm solid core wood or metal clad are acceptable. |
| B9 | 3.1.8.11.(1) | Existing functionally operable self-closing devices acceptable, including devices with "pause" hardware. |
| B10 | 3.1.8.12.(1) and (2) | Between patient or inmate rooms, and corridors, existing "pause" type self-closing devices may be used as hold-open devices where functionally operable. |
| B11 | 3.1.8.13. | Existing functionally operable latching devices, excluding draw bolts, are acceptable. |
| B12 | 3.1.8.14.(1) and (2) | Except in zone or <i>exit fire separations</i> not required to be greater than 1 h, existing wired glass installations may be acceptable provided they are set in steel or metal-clad frames. |
| B13 | 3.1.8.14.(3) | Existing glass block acceptable. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|--|--|
| B14 | 3.1.8.15.; 3.1.8.16.; 3.1.8.17. | Existing acceptable. |
| B15 | 3.1.9.5.(1) and (2) | Existing openings in existing ceiling membranes to remain. Existing openings may be moved to another location in the same ceiling provided the aggregate area of openings does not increase and are not cumulative, and the existing opening is blocked up to provide the same rating as the ceiling assembly. |
| B16 | 3.1.11. | Where the concealed space is being materially altered, provide smoke or heat detection in that space in lieu of firestops and tie into fire alarm system. |
| B17 | 3.1.14.; 3.1.15. | Existing roof assemblies and roof coverings acceptable. |
| B18 | 3.2.3. | Existing windows <ul style="list-style-type: none"> (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another <i>building</i>, lies no closer than 300 mm from a window in such other <i>building</i>, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, to be restricted to the same <i>fire compartment</i> and shall conform to the requirements of Articles 3.2.3.13. or 9.10.12.4. where applicable, or (c) where a <i>building</i> does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient <i>limiting distance</i>, such existing openings are allowed to be relocated provided: <ul style="list-style-type: none"> (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.14.(2), or (ii) the <i>building</i> is <i>sprinklered</i>. |
| B19 | 3.2.4. | <ul style="list-style-type: none"> (a) Existing fire alarm system may remain except that Article 3.2.4.5. does not apply where the "Fire Safety Plan" (as described in Subsection 2.8.2. of the Ontario Fire Code) for the <i>building</i> addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system. |
| B20 | 3.2.5.1.; 3.2.5.2. | Existing access to an existing <i>occupancy</i> acceptable. Where the existing <i>building</i> is changed to a "B" <i>occupancy</i> , existing access may be acceptable. |
| B21 | 3.2.5.3.(1) | Existing acceptable, except where a change in <i>occupancy</i> occurs to a "B1" or "B2" <i>occupancy</i> . |
| B22 | 3.2.5.3.(2) | Existing acceptable. |
| B23 | 3.2.5.4.; 3.2.5.5.; 3.2.5.6. | Existing access route to existing <i>occupancy</i> is acceptable if the <i>building</i> is <i>sprinklered</i> . Where existing <i>building</i> is changed to a "B" <i>occupancy</i> , access route shall be provided. |
| B24 | 3.2.5.7.; 3.2.5.18. | Does not apply except where a change in <i>occupancy</i> occurs to a "B1" or "B2" <i>occupancy</i> , where occupants are not normally evacuated from the <i>building</i> . |
| B25 | 3.2.5.13. | Existing sprinkler systems in existing <i>buildings</i> that do not conform to NFPA 13 may be altered, added to, or extended from the existing system without complying with NFPA 13, provided the system is operational and adequate with respect to coverage, water supply and controls, and provided the system is evaluated by a qualified <i>designer</i> . |
| B26 | 3.2.6. Additional requirements for high buildings | Reserved |
| B27 | 3.2.9. | Does not apply except where a change in <i>occupancy</i> occurs to a Group B <i>occupancy</i> , where occupants are not normally evacuated from the <i>building</i> . |
| B28 | 3.3.1.5.(1)(c); Table 3.3.1.5. | Column 2 to read: 100 m ² for "B1" and "B2" (sleeping rooms) and 200 m ² for "B2" (other rooms). |
| B29 | 3.3.1.9. | Existing width of <i>public corridors</i> of not less than 914 mm is acceptable, except as provided in Sentence 3.3.3.3.(2). |
| B30 | 3.3.1.10.; 3.3.1.11. | Existing door swings may remain in <i>heritage buildings</i> , existing or being restored, with no change in <i>major occupancy</i> and with <i>occupant load</i> no greater than 100. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|--|--|
| B31 | 3.3.1.12. | Existing doors acceptable. |
| B32 | 3.3.1.15. | Existing acceptable. |
| B33 | 3.3.1.16. | Existing non-conforming capacities of <i>access to exits</i> are acceptable, provided that the excessive capacity is no greater than 15%, and (a) corridor <i>separations</i> are rated to Code plus early warning system provided, or (b) there are sprinklers, plus <i>smoke alarms</i> in <i>suites</i> . |
| B34 | 3.3.1.17. | Existing acceptable. |
| B35 | 3.3.1.18. | Existing stained, etched, bevelled, leaded or figured glass acceptable. |
| B36 | 3.3.3.3.(1) | Existing dead end corridors acceptable with 30 min <i>fire separation</i> of corridor plus sprinklering of <i>floor area</i> , provided the <i>occupant load</i> is not greater than 10 persons and travel distance not greater than 6 m plus corridor width to "exit choice" point. |
| B37 | 3.3.3.7. | 45 min <i>fire separation</i> acceptable. |
| B38 | 3.3.5.5.(1); 3.3.5.8.(1) and (3) | Need not comply where a gasketed door and self closer are provided in the existing <i>fire separation</i> . |
| B39 | 3.4.1.8. | Existing stained, etched, bevelled, leaded or figured glass acceptable. |
| B40 | 3.4.2.5.(1) | Existing travel distance acceptable where <i>floor area</i> is <i>sprinklered</i> and provided <i>fire separations</i> comply with Part 3 of the Code. |
| B41 | 3.4.3.1.(2) | Existing acceptable provided there is no change in <i>occupancy</i> to a "B2" or "B3". |
| B42 | 3.4.3.5. | Existing acceptable. |
| B43 | 3.4.3.6. | Existing headroom clearance of not less than 1 980 mm is acceptable. |
| B44 | 3.4.5.1.(2) and (7) | Existing illuminated legible <i>exit</i> signs are acceptable. |
| B45 | 3.4.6.2. | Existing acceptable, if visually apparent. |
| B46 | 3.4.6.3.(1) | Existing acceptable with a rise of no greater than 3.7 m. |
| B47 | 3.4.6.3.(2) | Existing acceptable provided there is no change in <i>occupancy</i> to a "B2" or "B3". |
| B48 | 3.4.6.4.(2) to (9) | Existing acceptable. |
| B49 | 3.4.6.5.(2) to (5) | Existing acceptable. |
| B50 | 3.4.6.6.(1) | Existing acceptable. |
| B51 | 3.4.6.7. | Existing acceptable. |
| B52 | 3.4.6.8. | Existing acceptable where there is no change in <i>major occupancy</i> or increase in <i>occupant load</i> greater than 15%. |
| B53 | 3.4.6.10.(1), (2) and (4) | Existing acceptable. |
| B54 | 3.4.6.11. | Existing acceptable in <i>public heritage buildings</i> . |
| B55 | 3.4.6.15.(2) and (3) | Existing functionally operable panic hardware acceptable. |
| B56 | 3.4.6.17.(1)(c) | Existing access to existing <i>occupancy</i> is acceptable. Where the existing <i>building</i> is changed to a "B" <i>occupancy</i> , existing access may be acceptable. |
| B57 | 3.4.7.2. | <i>Combustible</i> fire escapes which are protected from fire in accordance with Sentence 3.2.3.13.(2) are permitted or may be reconstructed or recreated (as in the case of a <i>heritage building</i>). Where serving non-ambulatory persons, minimum width shall be 1 100 mm. |
| B58 | 3.5.1. | Existing acceptable, except where <i>building</i> is classified under Subsection 3.2.6. |
| B59 | 3.6.2.1.(5) | 45 min <i>fire separation</i> acceptable. |
| B60 | 3.6.2.7. | Existing acceptable. |
| B61 | 3.6.2.8.(1) | 2 h <i>fire separation</i> acceptable. |
| B62 | 3.6.3.1.(1) to (5) | 45 min <i>fire separation</i> acceptable. |
| B63 | 3.6.3.3.(1), (3), (4)(a), (5) and (10) | Existing acceptable. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|---|
| B64 | 3.6.3.3.(2)(a) | 45 min <i>fire separation</i> acceptable. |
| B65 | 3.6.4. | Existing acceptable, except where a change in <i>occupancy</i> occurs to a Group B <i>occupancy</i> . |
| B66 | 3.7.1.3.(1) | Existing acceptable. |
| B67 | 3.7.2.1.(2) | The minimum glass areas may be reduced by 50%. |
| B68 | 3.7.4.2. | Where the <i>occupant load</i> is increased by more than 15% above the capacity of the existing facilities, facilities to be added to accommodate the increase. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 4 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|--|
| B69 | 4.1.9. | The requirements under this Subsection do not apply. |
| Col. 1 | 2 | 3 |

Table 11.5.1.1.C.

Compliance Alternatives for Residential Occupancies

Forming Part of Article 11.5.1.1.

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|---|--|
| C1 | 3.1.4.6. | Existing <i>heavy timber construction</i> acceptable where <i>construction</i> is within 90% of member sizes listed in Part 3. |
| C2 | 3.1.5.2.; 3.1.5.3.; 3.1.5.4.; 3.1.5.6. | Existing acceptable. |
| C3 | 3.1.5.7.; 3.1.5.8.; 3.1.5.9.; 3.1.5.10. | Except for exposed foamed plastics, existing acceptable. To match existing, materials may be added from on or off site. |
| C4 | 3.1.5.13.; 3.1.5.14.; 3.1.5.15.; 3.1.5.16.; 3.1.5.20.; 3.1.5.22. | Existing acceptable. |
| C5 | 3.1.7.1. | <i>Fire-resistance ratings</i> may also be used where they are based on: <ol style="list-style-type: none"> 1. HUD No. 8 Guideline on Fire Ratings of Archaic Materials and Assemblies. 2. Fire Endurance of Protected Steel Columns and Beams, DBR Technical Paper No. 194. 3. Fire Endurance of Unit Masonry Walls, DBR Technical Paper No. 207. 4. Fire Endurance of Light-Framed and Miscellaneous Assemblies, DBR Technical Paper No. 222. |
| C6 | 3.1.7.5.(3) | Existing assemblies required to be of <i>noncombustible construction</i> may be supported by <i>combustible construction</i> having at least the same <i>fire-resistance rating</i> as that supported. |
| C7 | 3.1.8.1.(2); 3.1.8.6.(1) and (2) | Existing functional <i>closures</i> are acceptable and may be relocated within the same existing <i>fire separation</i> . |
| C8 | 3.1.8.5.(2) | <ol style="list-style-type: none"> (a) Existing functional and sound doors in existing <i>buildings</i> that are either hollow metal or kalamein and containing wired glass at least 6 mm thick and conforming to Sentence 3.1.8.14.(2) are permitted in lieu of doors not required to exceed 45 min, (b) all existing functional and sound hollow metal or kalamein doors which carry existing 1.5 h labels are acceptable in lieu of current 1.5 h labels and may contain wired glass panels not exceeding 0.0645 m², at least 6 mm thick and conforming to Sentence 3.1.8.14.(2), and (c) every fire door, window assembly or glass block used as a <i>closure</i> in a required <i>fire separation</i> shall be installed in conformance with good engineering practice. |
| C9 | 3.1.8.7.; 3.1.8.8.; 3.1.8.9. | Except for <i>hotels</i> , <i>fire dampers</i> or <i>fire stop flaps</i> are not required to be installed in existing ducts at penetrations of existing <i>fire separations</i> . |
| C10 | 3.1.8.10.(1) | For existing unlabeled doors in existing <i>buildings</i> , at least 45 mm solid core wood or metal clad are acceptable. Except for <i>residential occupancies</i> , existing closure rating of 20 min will not be required where the entire <i>floor area</i> is <i>sprinklered</i> . |
| Col. 1 | 2 | 3 |

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|--|--|
| C11 | 3.1.8.13. | Existing functionally operable latching devices, excluding draw bolts, are acceptable. |
| C12 | 3.1.8.14. | Existing transoms or sidelights located in <i>fire separations</i> not required to be greater than 1 h may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed. |
| C13 | 3.1.8.15.; 3.1.8.16.; 3.1.8.17. | Existing acceptable. |
| C14 | 3.1.11. | Where the concealed space is being materially altered, provide smoke or heat detection in that space in lieu of firestops and tie into fire alarm system. |
| C15 | 3.2.2.17.(1)(b) and (c) | Existing sprinkler systems in 1 <i>storey buildings</i> need not comply. |
| C16 | 3.2.3. | Existing windows <ul style="list-style-type: none"> (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another <i>building</i>, lies not closer than 300 mm from a window in such other <i>building</i>, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) Except relocation of units, shall be restricted to the same <i>fire compartment</i> and shall conform to the requirements of Articles 3.2.3.13. or 9.10.12.4. where applicable, or (c) Where a <i>building</i> does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient <i>limiting distance</i>, such existing openings are allowed to be relocated provided: <ul style="list-style-type: none"> (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.14.(2), or (ii) the <i>building</i> is <i>sprinklered</i>. |
| C17 | 3.2.4. | <ul style="list-style-type: none"> (a) Existing fire alarm system may remain except that Article 3.2.4.5. does not apply where the "Fire Safety Plan" (as described in Subsection 2.8.2. of the Ontario Fire Code) for the <i>building</i> addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system. |
| C18 | 3.2.4.21. | Such <i>smoke alarms</i> may be battery operated. |
| C19 | 3.2.5.1.; 3.2.5.2. | Existing acceptable. |
| C20 | 3.2.5.3.(1) | Existing access acceptable. |
| C21 | 3.2.5.3.(2) | Existing acceptable. |
| C22 | 3.2.5.4.; 3.2.5.5.; 3.2.5.6. | <ul style="list-style-type: none"> (a) For <i>buildings</i> 6 <i>storeys</i> and less, existing access to existing <i>occupancy</i> is acceptable, and (b) Where existing <i>building</i> is changed to a "C" <i>occupancy</i>, an access route shall be provided, or the existing access is acceptable provided the <i>building</i> is <i>sprinklered</i>. |
| C23 | 3.2.5.7. | Existing water supply and hydrants are acceptable in <i>buildings</i> up to 6 <i>storeys</i> in <i>building height</i> . |
| C24 | 3.2.5.13. | Existing sprinkler systems in existing <i>buildings</i> that do not conform to NFPA 13 may be altered, added to, or extended from the existing system without complying with NFPA 13, provided the system is operational and adequate with respect to coverage, water supply and controls, and provided the system is evaluated by a qualified designer. |
| C25 | 3.2.6. Additional requirements for high <i>buildings</i> | Reserved |
| C26 | 3.2.9. | Does not apply to <i>buildings</i> 4 <i>storeys</i> and less. For existing <i>buildings</i> over 4 <i>storeys</i> in <i>building height</i> , existing standpipe and hose systems water supply is acceptable provided it can deliver a minimum flow rate of 265 L/min for 30 min at 345 kPa (gauge) at the two highest and most remote hose valves, with not less than 132 L/min from each of the two simultaneously. |
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| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|--------------------------------|--|
| C27 | 3.3.1.4.(1); 3.3.4.2.(1) | 30 min is acceptable to separate corridors or <i>exits</i> in <i>buildings</i> not exceeding 6 storeys in <i>building height</i> , except that 45 min is required for <i>exits</i> in <i>buildings</i> exceeding 3 storeys in <i>building height</i> . For <i>buildings</i> exceeding 6 storeys in <i>building height</i> , 30 min is acceptable where <i>smoke detectors</i> are installed in corridors, except 1 h is required in <i>exits</i> . 30 min is acceptable to separate <i>public corridors</i> , <i>exits</i> or <i>suites</i> in <i>hotels</i> , provided <i>fire detectors</i> are installed in every room in a <i>suite</i> and in every room not located in a <i>suite</i> , other than corridors, washrooms, closets in <i>suites</i> , saunas, refrigerated areas and swimming pools. |
| C28 | 3.3.1.5.(1)(c); Table 3.3.1.5. | In Column 2, maximum area of room or <i>suite</i> to be unlimited. |
| C29 | 3.3.1.9. | Existing width of <i>public corridors</i> of not less than 914 mm is acceptable. |
| C30 | 3.3.1.10.; 3.3.1.11. | Existing door swings may remain in <i>heritage buildings</i> , existing or being restored, with no change in <i>major occupancy</i> and with <i>occupant load</i> no greater than 100. |
| C31 | 3.3.1.12. | Existing doors acceptable, provided not less than 600 mm wide. |
| C32 | 3.3.1.15. | Existing curved or spiral stairs acceptable. |
| C33 | 3.3.1.16. | Existing non-conforming capacities of <i>access to exits</i> are acceptable, provided that the excessive capacity is no greater than 15%, (a) corridor <i>fire separations</i> are to be rated to Code plus early warning system provided, or (b) there are sprinklers, plus <i>smoke alarms</i> in <i>suites</i> . |
| C34 | 3.3.1.17. | Does not apply to <i>heritage buildings</i> . |
| C35 | 3.3.1.18. | Existing stained, etched, bevelled, leaded or figured glass acceptable. |
| C36 | 3.3.4.2.(2)(a) (b) (c) | 30 min <i>fire separation</i> acceptable. 45 min <i>fire separation</i> acceptable. 1.5 h <i>fire separation</i> acceptable. |
| C37 | 3.3.4.4.(5) and (6) | For <i>buildings</i> 6 storeys and less, doorway from <i>dwelling unit</i> will be permitted to open directly into <i>exit stairway</i> or interior corridor served by a single <i>exit</i> if a fire alarm system complying with Subsection 3.2.4. is installed and the <i>dwelling unit</i> has a second and separate <i>means of egress</i> . |
| C38 | 3.3.5.5.(1) and 3.3.5.8.(3) | Need not comply where a gasketed door and self closer are provided in the existing <i>fire separation</i> . |
| C39 | 3.4.1.4. | Except for <i>hotels</i> , the following types of <i>exits</i> may also be used for <i>buildings</i> not over 6 storeys in <i>building height</i> (a) connected balconies, which connect across <i>firewalls</i> , or connect to another <i>exit</i> , or with access to ground level. (b) areas of refuge where fire service rescue is possible and that comply with Measure L of Sentences (4) to (10), (18) and (20)(a), (b) and (d) in the Supplementary Guideline. |
| C40 | 3.4.1.8. | Existing stained, etched, bevelled, leaded or figured glass acceptable. |
| C41 | 3.4.2.5.(1) | Existing travel distance acceptable where <i>floor area</i> is <i>sprinklered</i> and provided <i>fire separations</i> comply with Part 3 of the Code. |
| C42 | 3.4.3.1.(2) | Existing width of <i>exits</i> acceptable provided the <i>occupant load</i> is not more than 15% above the <i>exit capacity</i> . |
| C43 | 3.4.3.5. | Except for <i>heritage buildings</i> , existing acceptable, provided not less than 800 mm. |
| C44 | 3.4.3.6. | Existing headroom clearance of not less than 1 980 mm is acceptable. |
| C45 | 3.4.4.1.(1) | Except for <i>exits</i> , no rating required where <i>floor areas</i> are <i>sprinklered</i> . |
| C46 | 3.4.4.1. | <i>Fire separations of exits</i> permitted in <i>buildings</i> : - 30 min, up to 3 storeys in <i>building height</i> ; - 45 min, in <i>hotels</i> up to 3 storeys in <i>building height</i> ; - 45 min, up to 6 storeys in <i>building height</i> ; - 1 h, over 6 storeys in <i>building height</i> . |
| C47 | 3.4.4.4.(7) | Existing washrooms opening directly into an <i>exit stairwell</i> shall be separated from the <i>exit stairwell</i> by a 45 min <i>closure</i> . |
| C48 | 3.4.5.1.(2) and (7) | Existing illuminated legible <i>exit signs</i> are acceptable. |
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| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------------|--|
| C49 | 3.4.6.1. | Existing acceptable. |
| C50 | 3.4.6.2. | Existing acceptable, if visually apparent. |
| C51 | 3.4.6.3.(1) and (2) | Existing acceptable with rise no greater than 3.7 m. |
| C52 | 3.4.6.3.(3) and (4) | Existing acceptable. |
| C53 | 3.4.6.4.(2) and (8) | Existing acceptable. |
| C54 | 3.4.6.5. (2) and (4) | Existing acceptable. |
| C55 | 3.4.6.6.(1) | Existing acceptable. |
| C56 | 3.4.6.7.; 3.4.6.8. | Existing acceptable. |
| C57 | 3.4.6.9.(2) to (6) | Existing acceptable. |
| C58 | 3.4.6.10.(1) and (2) | Existing acceptable. |
| C59 | 3.4.6.11. | Existing acceptable in <i>heritage buildings</i> provided the <i>occupant load</i> is not more than 60. |
| C60 | 3.4.6.15.(1) to (3) | Existing functionally operable panic hardware acceptable. |
| C61 | 3.4.7.2. | <i>Combustible</i> fire escapes which are protected from fire in accordance with Sentence 3.2.3.13.(2) are permitted or may be reconstructed or recreated (as in the case of a <i>heritage building</i>). |
| C62 | 3.5.1. | Existing acceptable except where <i>building</i> is classified under Subsection 3.2.6. |
| C63 | 3.6.2.1.(5) | 45 min <i>fire separation</i> acceptable. |
| C64 | 3.6.2.3. | Existing acceptable where explosion-resistant <i>construction</i> or venting is provided. |
| C65 | 3.6.2.7. | Existing acceptable. |
| C66 | 3.6.2.8.(1) | 2 h <i>fire separation</i> acceptable. |
| C67 | 3.6.3.1.(1) to (5) | 45 min <i>fire separation</i> acceptable up to 6 <i>storeys</i> . |
| C68 | 3.6.3.3.(2) | Where 2 h <i>fire separation</i> is required, 1 h is acceptable. Except for linen discharge rooms where 1 h <i>fire separation</i> is required, 45 min is acceptable. |
| C69 | 3.6.3.3.(4) and (5) | Existing sizes acceptable. |
| C70 | 3.6.3.3.(9) | Where 2 h <i>fire separation</i> is required, 1 h is acceptable. |
| C71 | 3.6.4.2. | Ceiling <i>fire separation</i> need not be fire-resistance rated where sprinklering, subject to C.A. C24, of <i>fire compartments</i> on both sides of vertical <i>fire separation</i> is provided and where such <i>fire separation</i> is not required to exceed 1 h. |
| C72 | 3.6.4.3.(1) | Existing to meet <i>flame-spread</i> rating of 25 or to be <i>sprinklered</i> . |
| C73 | 3.6.4.4.; 3.6.4.5.; 3.6.4.6. | Existing access acceptable. |
| C74 | 3.7.1.1.(2) | Minimum room height shall be not less than 1 950 mm over the required floor area and any location that would normally be used as a <i>means of egress</i> . |
| C75 | 3.7.2.1. | (a) Where windows are not used as <i>means of egress</i> and where they do not conflict with ventilation requirements, the minimum glass areas as shown in Table 9.7.1.2. may be reduced by 50%, or (b) an existing room converted to an interior room, created by an addition, shall not require a window, provided there is an opening in a dividing wall occupying not less than 30% of the separating plane to an adjoining room, where the adjoining room has a minimum of 5% window area of the combined floor areas, and provided the required ventilation for the combined rooms is maintained. |
| C76 | 3.7.4.2. | Where the <i>occupant load</i> is increased by more than 15% above the capacity of the existing facilities, facilities to be added to accommodate the increase. |
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| NUMBER | PART 4 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|--|
| C77 | 4.1.9. | The requirements under this Subsection do not apply. |
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| NUMBER | PART 6 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|---|---|
| C78 | 6.2.3.2.; 6.2.3.5.; 6.2.3.6.; 6.2.3.12. | Existing acceptable. |
| C79 | 6.2.3.13.(2) | In a <i>building</i> containing not more than four <i>dwelling units</i> , the existing heating or <i>air conditioning</i> system may be altered to serve more than one <i>dwelling unit</i> provided <i>smoke alarms</i> are installed in each <i>dwelling unit</i> and provided a <i>smoke detector</i> is installed in the supply or return air duct system serving the entire <i>building</i> which would turn off the fuel supply and electrical power to the heating system upon activation of such detector. |
| C80 | 6.2.3.17. | Existing openings, grilles and diffusers acceptable. |
| C81 | 6.2.4.2.(1); 6.2.4.5.(1) to (3) | Existing acceptable. |
| C82 | 6.2.4.5.(10) | Where the duct system is being altered, lesser amounts and extent of insulation will be permitted. |
| C83 | 6.2.9.2. | Existing acceptable. |
| C84 | 6.3.1. | Existing acceptable, provided products of combustion are safely vented. |
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| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|---|
| C85 | 9.3.2.1. | Sound used lumber may be acceptable for reuse without a grade stamp provided that: <ul style="list-style-type: none"> (a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, (b) where the grade or species is unknown, the minimum grade shall apply for span table use, and (c) lumber has not been subjected to termite infestation. |
| C86 | 9.5.3.1. | In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i> , <ul style="list-style-type: none"> (a) minimum room height shall not be less than 1 950 mm over the required floor area and in any location that would normally be used as a <i>means of egress</i>, or (b) minimum room height shall not be less than 2 030 mm over at least 50% of the required floor area, provided that any part of the floor having a clear height of less than 1 400 mm shall not be considered in computing the required floor area. |
| C87 | 9.6.3.1. | Doors may be lesser heights to suit ceiling heights. |
| C88 | 9.6.3.2. | Except where required in 9.9.2.7. existing acceptable, provided not less than 600 mm. |
| C89 | 9.6.5. | Existing acceptable. |
| C90 | 9.6.6.2.; 9.6.6.3. | Existing doors and sidelights being reused or relocated need not conform if identified or protected. |
| C91 | 9.7.1.2. | <ul style="list-style-type: none"> (a) Where windows are not used as a <i>means of egress</i> and where they do not conflict with ventilation requirements, the minimum glass areas as shown in Table 9.7.1.2. may be reduced by 50%, and (b) an existing room converted to an interior room created by an addition shall not require a window, provided there is an opening in a dividing wall occupying not less than 30% of the separating plane to an adjoining room where the adjoining room has a minimum of 5% window area of the combined floor areas, and provided the required ventilation for the combined room is maintained. |
| C92 | 9.7.1.3. | In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i> , existing acceptable, where there is direct access to the exterior. |
| C93 | 9.7.1.7. | Existing acceptable. |
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| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|--|
| C94 | 9.7.5.1. | Existing acceptable, if marked to indicate their existence and position. |
| C95 | 9.8.1. to 9.8.4. | Replacement or extension of existing stair systems shall be exempt from the provisions of these Articles, except that they shall have: <ul style="list-style-type: none"> (a) a minimum width between wall faces of 700 mm, and (b) a minimum clear height over tread nosing of or landing 1 800 mm. |
| C96 | 9.8.5.2. | Existing curved or spiral stairs are acceptable. |
| C97 | 9.8.5.3. | Where a stair complies with Subsection 9.8.3., an extension to a stair may contain two sets of winders provided that they are separated by at least 3 treads or a landing. |
| C98 | 9.8.6. | Existing ramps acceptable, where practical. |
| C99 | 9.8.7. | Existing handrails acceptable, unless considered unsafe by <i>chief building official</i> . |
| C100 | 9.8.8. | Existing <i>guards</i> acceptable, unless considered unsafe by <i>chief building official</i> . |
| C101 | 9.8.9.5.(2) | Existing acceptable. |
| C102 | 9.9.2.2. | Except for <i>hotels</i> , the following types of <i>exits</i> may also be used: <ul style="list-style-type: none"> (a) connected balconies, which connect across <i>firewalls</i>, or connect to another <i>exit</i>, or with access to ground level, (b) areas of refuge approved by the <i>chief building official</i>, where fire service rescue is possible, or (c) <i>combustible</i> or <i>noncombustible</i> exterior stairways or fire escapes which are protected in accordance with Sentence 3.2.3.13.(2). These may be reconstructed or recreated (as in the case of a <i>heritage building</i>). |
| C103 | 9.9.2.6. | Existing acceptable, provided that the enclosure has a 45 min <i>fire-resistance rating</i> . |
| C104 | 9.9.2.7. | Except for <i>hotels</i> , existing acceptable. |
| C105 | 9.9.3.2. | <ul style="list-style-type: none"> (a) In a <i>building</i> containing not more than four <i>dwelling units</i>, the width of every <i>exit</i> facility may be as the existing, but not less than 800 mm, or (b) In a <i>building</i> containing more than four <i>dwelling units</i>, the width of every <i>exit</i> facility may be as the existing, but not less than 900 mm. |
| C106 | 9.9.3.3. | <ul style="list-style-type: none"> (a) In a <i>building</i> containing not more than four <i>dwelling units</i>, the minimum width of a <i>public corridor</i> may be 800 mm, or (b) In a <i>building</i> containing more than four <i>dwelling units</i>, the minimum width of a <i>public corridor</i> may be 900 mm. |
| C107 | 9.9.3.4. | Existing headroom clearance of not less than 1 950 mm is acceptable. |
| C108 | 9.9.4.2. | Except as permitted in C122, in a <i>building</i> containing not more than four <i>dwelling units</i> or <i>suites</i> , one <i>exit</i> need not be separated from the remainder of the <i>building</i> at the <i>first storey</i> where there are one or more other <i>exits</i> complying with C109. |
| C109 | 9.9.4.2.(1) and (2) | 30 min <i>fire separation</i> acceptable. |
| C110 | 9.9.5.4. | Existing acceptable. |
| C111 | 9.9.5.8. | Existing acceptable provided minimum 45 min <i>fire separation</i> and where explosion-resistant <i>construction</i> or venting is provided. |
| C112 | 9.9.6.2. | Except for <i>hotels</i> , existing acceptable. |
| C113 | 9.9.6.3. | Existing headroom clearance of not less than 1 950 mm is acceptable, with existing door heights to be acceptable. |
| C114 | 9.9.6.4. | Existing door widths and heights are acceptable, provided <i>exit</i> widths and heights conform to C.A.'s C105 and C107. |
| C115 | 9.9.6.5. | Existing door swings acceptable. Existing acceptable in <i>public heritage buildings</i> , where approved by <i>chief building official</i> . |
| C116 | 9.9.6.6.(1) | Where <i>exit</i> doors open onto a landing, they shall not extend beyond the face of the first riser. |
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| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|--|
| C117 | 9.9.6.10. | Existing functionally operable passage or panic hardware acceptable. |
| C118 | 9.9.7.3.(1)(a) | Maximum area of existing room or <i>suite</i> does not apply. |
| C119 | 9.9.7.4. | Except as provided in C122, in detached houses, semi-detached houses, townhouses row houses containing not more than two <i>dwelling units</i> , requirement applies. |
| C120 | 9.9.8.2.(1) | Existing travel distance acceptable where <i>floor area</i> is <i>sprinklered</i> and provided <i>fire separations</i> comply with Part 9 of the Code. |
| C121 | 9.9.8.5. | In a <i>building</i> containing not more than four <i>dwelling units</i> or <i>suites</i> , existing glazed solid wood doors to lobby may remain in lieu of new 20 minute doors, provided the <i>fire separations</i> for the floor above or below are provided as per C.A. C132, and a second <i>means of egress</i> from the <i>dwelling units</i> complies with the Code requirements. |
| C122 | 9.9.9. | <p>In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i>, <i>exit</i> requirements are acceptable if at least one of the following conditions exists:</p> <ul style="list-style-type: none"> (a) a door, including a sliding door, that opens directly to the exterior from a <i>dwelling unit</i>, serves only that <i>dwelling unit</i> and has reasonable access to ground level, and the <i>dwelling units</i> are equipped with <i>smoke alarms</i> installed in conformance with Subsection 9.10.18., (b) an <i>exit</i> that is accessible to more than one <i>dwelling unit</i> and provides the only <i>means of egress</i> from each <i>dwelling unit</i>, provided that the <i>means of egress</i> is separated from the remainder of the <i>building</i> and common areas by a <i>fire separation</i> having a 30 min <i>fire-resistance rating</i> and provided further that the required <i>access to exit</i> from any <i>dwelling unit</i> cannot be through another <i>dwelling unit</i>, <i>service room</i> or other <i>occupancy</i>, and both <i>dwelling units</i> and common areas are provided with <i>smoke alarms</i> installed in conformance with Subsection 9.10.18. and are interconnected, or (c) access to an <i>exit</i> from one <i>dwelling unit</i> which leads through another <i>dwelling unit</i> where <ul style="list-style-type: none"> (i) an additional means of escape is provided through a window that conforms to the following: <ul style="list-style-type: none"> - the sill height is not more than 1 000 mm above or below adjacent ground level, - the window can be opened from the inside without the use of tools, - the window has an individual unobstructed open portion having a minimum area of 0.38 m² with no dimension less than 460 mm, - the sill height does not exceed 900 mm above the floor or fixed steps, - where the window opens into a window well, a clearance of not less than 1 000 mm shall be provided in front of the window, and - <i>smoke alarms</i> are installed in every <i>dwelling unit</i> and in common areas in conformance with Subsection 9.10.18. and are interconnected, (ii) an additional means of escape is provided through a window that conforms to the following: <ul style="list-style-type: none"> - a casement window not less than 1 060 mm high, 560 mm wide, with a sill height not more than 900 mm above the inside floor, - the sill height of the window is not more than 5 m above adjacent ground level, and - <i>smoke alarms</i> are installed in every <i>dwelling unit</i> and in common areas in conformance with Subsection 9.10.18. and are interconnected, or (iii) the <i>building</i> is <i>sprinklered</i> and the <i>dwelling units</i> are equipped with <i>smoke alarms</i> installed in conformance with Subsection 9.10.18. |
| C123 | 9.9.10. | In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i> , the requirements under this Subsection do not apply. |
| C124 | 9.9.10.6. | Existing illuminated legible signs are acceptable for <i>exit</i> signs, if approved by <i>chief building official</i> . |
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| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|-----------------------------------|---|
| C125 | 9.9.11. | In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i> , the requirements under this Subsection apply only where the condition described in (b) of C122 exists. |
| C126 | 9.10.1.1. | Assemblies required to be of <i>noncombustible construction</i> may be supported by <i>combustible construction</i> having at least the same <i>fire-resistance rating</i> as that supported. |
| C127 | 9.10.1.3.(8) | Existing installations acceptable subject to C.A.'s C23, C24 and C26. |
| C128 | 9.10.3. | <i>Fire-resistance ratings</i> may also be used where they are based on: <ol style="list-style-type: none"> 1. HUD No. 8 Guideline on Fire Ratings of Archaic Materials and Assemblies. 2. Fire Endurance of Protected Steel Columns and Beams, DBR Technical Paper No. 194. 3. Fire Endurance of Unit Masonry Walls, DBR Technical Paper No. 207. 4. Fire Endurance of Light-Framed and Miscellaneous Assemblies, DBR Technical Paper No. 222. |
| C129 | 9.10.5.1. | Existing openings in existing wall or ceiling membranes to remain. Existing openings may be moved to another location in the same wall or ceiling, provided the aggregate area of openings does not increase and are not accumulative, and the existing opening is blocked up to provide the same rating as the existing wall or ceiling assembly. |
| C130 | 9.10.6.2. | Existing <i>heavy timber construction</i> acceptable where <i>construction</i> is within 90% of member sizes listed in Part 3. |
| C131 | 9.10.7. | Existing acceptable for <i>heritage buildings</i> , subject to approval of <i>chief building official</i> . |
| C132 | 9.10.8.1.; 9.10.8.3.; 9.10.8.7. | <ol style="list-style-type: none"> (a) Except as provided in (b) and (c), 30 min rating is acceptable. (b) In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i>, 15 min horizontal <i>fire separation</i> is acceptable where <ol style="list-style-type: none"> (i) <i>smoke alarms</i> are installed in every <i>dwelling unit</i> and in common areas in conformance with Subsection 9.10.18., and (ii) <i>smoke alarms</i> are interconnected. (c) In detached houses, semi-detached houses townhouses and row houses containing not more than two <i>dwelling units</i>, the <i>fire-resistance rating</i> of the <i>fire separation</i> is waived where the <i>building</i> is <i>sprinklered</i>. |
| C133 | 9.10.9.7.; 9.10.9.9. | Existing acceptable in existing <i>fire separations</i> . |
| C134 | 9.10.9.10.(1) | Ceiling <i>fire separation</i> need not be <i>fire-resistance rated</i> where sprinklering, subject to C.A. C24, of <i>fire compartments</i> on both sides of vertical <i>fire separation</i> is provided and where such <i>fire separation</i> is not required to exceed 1 h. |
| C135 | 9.10.9.11.(1) | Except for <i>hotels</i> , 30 min <i>fire separation</i> acceptable. |
| C136 | 9.10.9.11.(2) | In lieu of the 2 h <i>fire separation</i> , sprinklers may be used in the <i>mercantile occupancy</i> or <i>medium hazard industrial occupancy</i> , with a 1 h <i>fire separation</i> . |
| C137 | 9.10.9.14.(1), (3); 9.10.9.15.(1) | <ol style="list-style-type: none"> (a) Except as provided in (b) and (c), 30 min <i>fire separation</i> is acceptable, (b) In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i>, 15 min horizontal <i>fire separation</i> is acceptable where <ol style="list-style-type: none"> (i) <i>smoke alarms</i> are installed in every <i>dwelling unit</i> and in common areas in conformance with Subsection 9.10.18., and (ii) <i>smoke alarms</i> are interconnected, (c) in detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i>, the <i>fire-resistance rating</i> of the <i>fire separation</i> is waived where the <i>building</i> is <i>sprinklered</i>. |
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| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|---|
| C138 | 9.10.10.3. | <p>(a) except as provided in (b) and (c) and in Articles 9.10.10.5. and 9.10.10.6., 30 min <i>fire separation</i> is acceptable,</p> <p>(b) in detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i>, the <i>fire-resistance rating</i> of the vertical <i>fire separation</i> is waived where</p> <p>(i) <i>smoke alarms</i> are installed in every <i>dwelling unit</i> and in common areas in conformance with Subsection 9.10.18., and</p> <p>(ii) <i>smoke alarms</i> are interconnected,</p> <p>(c) in detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i>, the <i>fire-resistance rating</i> of the vertical <i>fire separation</i> is waived where <i>service rooms</i> are <i>sprinklered</i>.</p> |
| C139 | 9.10.11.2.(1) | In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i> , a <i>party wall</i> with 1 h <i>fire-resistance rating</i> is acceptable. |
| C140 | 9.10.13.1 | Existing functional closures are acceptable subject to C.A. C8. and C141. |
| C141 | 9.10.13.1. | In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i> , existing unlabelled doors at least 45 mm solid core wood or metal clad are acceptable. For existing <i>closures</i> , ratings of 20 min will not be required where the entire <i>floor area</i> is <i>sprinklered</i> . |
| C142 | 9.10.13.2.(1) | In a <i>building</i> containing not more than four <i>dwelling units</i> or <i>suites</i> , existing glazed solid wood doors to corridors may remain in lieu of new 20 min doors, provided they are not located in a dead end corridor. |
| C143 | 9.10.13.3. | Existing acceptable provided that wood door frames are secured with hinge screws going through frame into the stud. |
| C144 | 9.10.13.5. | Existing wired glass acceptable. Existing transoms or sidelights located in required <i>fire separations</i> may be retained if wired glass at least 6 mm thick is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed. |
| C145 | 9.10.13.6. | Existing steel door frames acceptable. |
| C146 | 9.10.13.7. | Existing glass block acceptable. |
| C147 | 9.10.13.8. | Existing sizes acceptable. |
| C148 | 9.10.13.9. | Existing operable latches acceptable. |
| C149 | 9.10.13.10.(1) | Existing functionally operable self-closing devices acceptable. |
| C150 | 9.10.13.11. | Existing operable self-releasing electromagnetic hold-open device acceptable, and except for <i>hotels</i> , fusible link hold-open devices acceptable. |
| C151 | 9.10.13.12. | Existing swings acceptable. |
| C152 | 9.10.13.13.(1) | In a <i>building</i> containing not more than four <i>dwelling units</i> , the existing heating or <i>air conditioning</i> system may be altered to serve more than one <i>dwelling unit</i> provided <i>smoke alarms</i> are installed in each <i>dwelling unit</i> and provided a <i>smoke detector</i> is installed in the supply or return air duct system serving the entire <i>building</i> which would turn off the fuel supply and electrical power to the heating system upon activation of such detector. |
| C153 | 9.10.13.13.(1) | In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i> , existing acceptable. |
| C154 | 9.10.13.14.; 9.10.5.1. | In a <i>building</i> containing not more than four <i>dwelling units</i> , the existing heating or <i>air conditioning</i> system may be altered to serve more than one <i>dwelling unit</i> provided <i>smoke alarms</i> are installed in each <i>dwelling unit</i> and provided a <i>smoke detector</i> is installed in the supply or return air duct system serving the entire <i>building</i> which would turn off the fuel supply and electrical power to the heating system upon activation of such detector. |
| C155 | 9.10.5.1. | In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i> , existing acceptable. |
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| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|--|
| C156 | 9.10.14.1. | Existing windows <ul style="list-style-type: none"> (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another <i>building</i>, lies no closer than 300 mm from a window in such other <i>building</i>, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, to be restricted to the same <i>fire compartment</i> and shall conform to the requirements of Articles 3.2.3.13. or 9.10.12.4. where applicable, or (c) where a <i>building</i> does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient <i>limiting distance</i>, such existing openings are allowed to be relocated provided: <ul style="list-style-type: none"> (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.14.(2), or (ii) the <i>building</i> is <i>sprinklered</i>. |
| C157 | 9.10.14.7.; 9.10.14.8. | Where an addition to an existing residential <i>building</i> has its <i>exposing building face</i> further distant from the line than the existing <i>exposing building face</i> and the <i>limiting distance</i> is at least 1 200 mm, the total area of allowable <i>unprotected openings</i> may be determined under Article 9.10.14.8. for the combined new and existing <i>exposing building faces</i> , and <ul style="list-style-type: none"> (a) where the existing <i>exposing building face</i> has no <i>unprotected openings</i>, or the existing <i>unprotected openings</i> are to be filled in, the total allowable area of <i>unprotected openings</i> may be installed in the new <i>exposing building face</i>, or (b) where the existing <i>unprotected openings</i> are to remain, their area shall be deducted from the total allowable area of <i>unprotected openings</i>, and the balance may be installed in the new <i>exposing building face</i>, and (c) Article 9.10.14.7. applies only to the new <i>exposing building face</i>. |
| C158 | 9.10.15.2.(1) | Where balloon framing is exposed during renovation, fire stopping shall be provided. |
| C159 | 9.10.17. | <ul style="list-style-type: none"> (a) Subject to approval by the <i>chief building official</i>, existing fire alarm system may remain where the Fire Safety Plan for the <i>building</i> addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system. |
| C160 | 9.10.19. | Existing access acceptable. |
| C161 | 9.10.18.3. | <i>Smoke alarms</i> may be battery operated. |
| C162 | 9.14.2.1.(2) | Existing acceptable. |
| C163 | 9.18.2. | Existing access acceptable. |
| C164 | 9.18.3. | Existing vents and ventilation acceptable. |
| C165 | 9.19. | Existing acceptable. |
| C166 | 9.20.2.2. | Used masonry may be reused for patching and filling openings to match adjacent work. Used interior brick may not be used for exterior applications. |
| C167 | 9.20.3. | Archaic mortars may be used to match existing jointing. |
| C168 | 9.20.4.1. | Sound jointing techniques may be employed to match existing archaic joints. |
| C169 | 9.20.12.1. | Corbelling may be constructed to match existing or original details, provided that it is structurally adequate for the proposed use. |
| C170 | 9.21. | Existing acceptable, provided the products of combustion are safely vented, and provided no fire hazard is created. |
| C171 | 9.22.1. to 9.22.7. | Sound period materials, designs and techniques may be employed in recreated fireplaces, provided no fire hazard is created. Article 9.22.1.4. need not comply. |
| C172 | 9.23. | Existing acceptable. |
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| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|---|
| C173 | 9.24. | Existing acceptable. |
| C174 | 9.25. | <p>(a) Where the framing systems are being altered to match the existing framing, lesser amounts and extent of insulation and <i>vapour barrier</i> will be permitted. A <i>vapour barrier</i> may consist of paint or other coating with specified perm rating such as two coats of leafing aluminum pigmented paint.</p> <p>(b) Existing acceptable for Sentences 9.25.2.1.(5) to (7).</p> <p>(c) Existing previously occupied log houses that are dismantled and reconstructed are exempt from Sentences 9.25.2.1.(13) and (14).</p> |
| C175 | 9.26. | Existing acceptable, except when removing and replacing shingles, comply with the eave protection requirements of Subsection 9.26.5. |
| C176 | 9.27. | Existing acceptable. |
| C177 | 9.28. | All replacement or recreation of existing stucco may be compatible with the existing materials and application. |
| C178 | 9.29.4. | Existing acceptable. All replacement or recreation of existing plaster may be compatible with the existing materials and application. |
| C179 | 9.32. | In detached houses, semi-detached houses, townhouses and row houses containing not more than two <i>dwelling units</i> , rooms or spaces in <i>dwelling units</i> to be ventilated by natural means in accordance with Subsection 9.32.2. or by providing adequate mechanical ventilation. |
| C180 | 9.33.1.1. | In a <i>building</i> containing not more than four <i>dwelling units</i> , the existing heating or <i>air conditioning</i> system may be altered to serve more than one <i>dwelling unit</i> provided <i>smoke alarms</i> are installed in each <i>dwelling unit</i> and provided a <i>smoke detector</i> is installed in the supply or return air duct system serving the entire <i>building</i> which would turn off the fuel supply and electrical power to the heating system upon activation of such detectors. |
| C181 | 9.33.1.2. | <p>Sound, used or antique <i>appliances</i> are acceptable, provided that:</p> <p>(a) visual examination shows no excessive weakening by corrosion or other damage,</p> <p>(b) no structural parts are missing,</p> <p>(c) no cracks are present in the components intended to support the <i>appliance</i> or enclose the fire, and</p> <p>(d) loading and ash removal door latches and hinges hold the door closed.</p> |
| C182 | 9.34.4.1. | Existing meter mounting devices need not be relocated to these requirements during renovations. |
| C183 | 9.34.4.3. | Existing overhead and underground supply need not be relocated to these requirements during renovation. |
| C184 | 9.34.4.4.; 9.34.4.5. | Existing acceptable. |
| C185 | 9.37. | <p>Sound used materials shall be acceptable for reuse, subject to the following limitations:</p> <p>(a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, and</p> <p>(b) logs have not been subjected to termite infestation.</p> |
| Col. 1 | 2 | 3 |

Table 11.5.1.1.D/E.

Compliance Alternatives for Business/Mercantile Occupancies

Forming Part of Article 11.5.1.1.

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|--|--|
| DE1 | 3.1.4.6. | Existing <i>heavy timber construction</i> acceptable where <i>construction</i> is within 90% of member sizes listed in Part 3. |
| DE2 | 3.1.5.2.; 3.1.5.3.; 3.1.5.4.; 3.1.5.6. | Existing acceptable. |
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| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|--|--|
| DE3 | 3.1.5.7.; 3.1.5.8.; 3.1.5.9.; 3.1.5.10. | Except for exposed foamed plastics, existing acceptable. To match existing, materials may be added from on or off site. |
| DE4 | 3.1.5.14.; 3.1.5.15.; 3.1.5.20.; 3.1.4.22. | Existing acceptable. |
| DE5 | 3.1.7.1. | <i>Fire-resistance ratings</i> may also be used where they are based on: <ol style="list-style-type: none"> 1. HUD No. 8 Guideline on Fire Ratings of Archaic Materials and Assemblies. 2. Fire Endurance of Protected Steel Columns and Beams, DBR Technical Paper No. 194. 3. Fire Endurance of Unit Masonry Walls, DBR Technical Paper No. 207. 4. Fire Endurance of Light-Framed and Miscellaneous Assemblies, DBR Technical Paper No. 222. |
| DE6 | 3.1.7.5.(3) | Existing assemblies required to be of <i>noncombustible construction</i> may be supported by <i>combustible construction</i> having at least the same <i>fire-resistance rating</i> as that supported. |
| DE7 | 3.1.8.1.(2); 3.1.8.6. | Existing functional <i>closures</i> are acceptable and may be relocated within the same existing <i>fire separation</i> . |
| DE8 | 3.1.8.5.(2) | <ol style="list-style-type: none"> (a) Existing functional and sound doors in existing <i>buildings</i> that are either hollow metal or kalamein and containing wired glass at least 6 mm thick and conforming to Sentence 3.1.8.14.(2) are permitted in lieu of doors not required to exceed 45 min, (b) all existing functional and sound hollow doors which carry existing 1.5 h labels are acceptable in lieu of current 1.5 h labels and may contain wired glass panels not exceeding 0.0645 m², at least 6 mm thick and conforming to Sentence 3.1.8.14.(2), and (c) every fire door, window assembly or glass block used as a <i>closure</i> in a required <i>fire separation</i> shall be installed in conformance with good engineering practice. |
| DE9 | 3.1.8.7.; 3.1.8.9. | <i>Fire dampers</i> or <i>fire stop flaps</i> are not required to be installed in existing ducts at penetrations of existing <i>fire separations</i> . |
| DE10 | 3.1.8.10.(1) | For existing unlabelled doors in existing <i>buildings</i> , at least 45 mm solid core wood or metal clad are acceptable. |
| DE11 | 3.1.8.13. | Existing functionally operable latching devices, excluding draw bolts, are acceptable. |
| DE12 | 3.1.8.14. | Existing transoms or sidelights located in required <i>fire separations</i> may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed. |
| DE13 | 3.1.8.15.; 3.1.8.16.; 3.1.8.17. | Existing acceptable. |
| DE14 | 3.1.11. | Where the concealed space is being materially altered, smoke or heat detection in that space in lieu of firestops and tied into fire alarm system is acceptable. |
| DE15 | 3.2.2.17.(1)(b) and (c) | Existing sprinkler systems in 1 <i>storey buildings</i> need not comply. |
| DE16 | 3.2.3. | Existing windows <ol style="list-style-type: none"> (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another <i>building</i>, lies not closer than 300 mm from a window in such other <i>building</i>, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) Except relocation of units, shall be restricted to the same <i>fire compartment</i> and shall conform to the requirements of Articles 3.2.3.13. or 9.10.12.4. where applicable, or (c) Where a <i>building</i> does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient <i>limiting distance</i>, such existing openings are allowed to be relocated provided: <ol style="list-style-type: none"> (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.14.(2), or (ii) the <i>building</i> is <i>sprinklered</i>. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|--|--|
| DE17 | 3.2.4.1.(1)(d) | <p>(a) Existing fire alarm system may remain except that Article 3.2.4.5. does not apply where the "Fire Safety Plan" (as described in Subsection 2.8.2. of the Ontario Fire Code) for the <i>building</i> addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and</p> <p>(b) Extension of an existing system must ensure continuity and compatibility, and integrity of the system.</p> |
| DE18 | 3.2.5.1.; 3.2.5.2. | Existing acceptable. |
| DE19 | 3.2.5.3. | Existing access acceptable. |
| DE20 | 3.2.5.4.; 3.2.5.5.; 3.2.5.6. | Existing acceptable provided the building is sprinklered. |
| DE21 | 3.2.5.7. | Does not apply, except where a change in <i>major occupancy</i> occurs from a lesser <i>hazard index</i> . |
| DE22 | 3.2.5.13. | Existing sprinkler systems in existing <i>buildings</i> that do not conform to NFPA 13 may be altered, added to, or extended from the existing system without complying with NFPA 13, provided the system is operational and adequate with respect to coverage, water supply and controls, and provided the system is evaluated by a qualified designer. |
| DE23 | 3.2.6. Additional requirements for high buildings | Reserved |
| DE24 | 3.2.9. | Does not apply to <i>buildings</i> 6 storeys and less. Does not apply to <i>sprinklered buildings</i> . |
| DE25 | 3.3.1.5.(1)(c); Table 3.3.1.5. | In Column 2, maximum area of room or <i>suite</i> to be unlimited. |
| DE26 | 3.3.1.9.(1) | Existing width of <i>public corridors</i> of not less than 914 mm is acceptable. |
| DE27 | 3.3.1.10.; 3.3.1.11. | Existing door swings may remain in <i>heritage buildings</i> , existing or being restored, with no change in <i>major occupancy</i> and with <i>occupant load</i> no greater than 100. |
| DE28 | 3.3.1.12. | Existing doors acceptable, provided not less than 600 mm wide. |
| DE29 | 3.3.1.15. | Existing curved or spiral stairs acceptable. |
| DE30 | 3.3.1.16. | Existing non-conforming capacities of <i>access to exits</i> are acceptable, provided that: <ul style="list-style-type: none"> (a) the increase in <i>occupant load</i> is not greater than 15%, (b) the corridor <i>fire separations</i> are rated to Code, and (c) early warning systems are provided, or (d) there are sprinklers, plus <i>smoke alarms</i> in <i>suites</i>. |
| DE31 | 3.3.1.17. | Does not apply to <i>heritage buildings</i> . |
| DE32 | 3.3.1.18. | Existing stained, etched, bevelled, leaded or figured glass acceptable. |
| DE33 | 3.2.3.16. | Need not comply for "E" <i>occupancy</i> . |
| DE34 | 3.3.5.4.; 3.3.5.7.(3) | Need not comply where a gasketed door and self closer are provided in the existing <i>fire separation</i> . |
| DE35 | 3.4.1.4. | <p>The following types of <i>exits</i> may also be used for <i>buildings</i> not over 6 storeys in <i>building height</i>:</p> <ul style="list-style-type: none"> (a) Connected balconies, which connect across <i>firewalls</i>, or connect to another <i>exit</i>, or with access to grade. (b) Areas of refuge where fire service rescue is possible and that comply with Measure L of Sentences (4) to (10), (18), and 20(a), (b) and (d) in the Supplementary Guidelines. |
| DE36 | 3.4.1.8. | Existing stained, etched, bevelled, leaded or figured glass acceptable. |
| DE37 | 3.4.2.5.(1) | Existing travel distance acceptable where <i>floor area</i> is <i>sprinklered</i> . |
| DE38 | 3.4.3.1.(2) | Existing width of <i>exits</i> acceptable provided the <i>occupant load</i> is not more than 15% above the <i>exit</i> capacity. |
| DE39 | 3.4.3.5. | Existing acceptable. |
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| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------------|--|
| DE40 | 3.4.3.6. | Existing headroom clearance of not less than 1 980 mm is acceptable. |
| DE41 | 3.4.4.1. | <i>Fire separations of exits permitted in buildings:</i> - 30 min, up to 3 storeys in building height; - 45 min, up to 6 storeys in building height; - 1 h, over 6 storeys in building height. |
| DE42 | 3.4.4.4.(7) | Existing washrooms opening directly into <i>exit</i> stairwell shall be separated from <i>exit</i> stairwell by a 45 min <i>closure</i> . |
| DE43 | 3.4.5.1.(2) and (7) | Existing illuminated legible <i>exit</i> signs are acceptable. |
| DE44 | 3.4.6.1. | Existing acceptable. |
| DE45 | 3.4.6.2. | Existing acceptable, if visually apparent. |
| DE46 | 3.4.6.3.(1) and (2) | Existing acceptable with rise no greater than 3.7 m. |
| DE47 | 3.4.6.3.(3) and (4) | Existing acceptable. |
| DE48 | 3.4.6.4.(2) to (8) | Existing acceptable. |
| DE49 | 3.4.6.5.(1) to (5) | Existing acceptable. |
| DE50 | 3.4.6.6.(1) | Existing acceptable. |
| DE51 | 3.4.6.7.; 3.4.6.8. | Existing acceptable. |
| DE52 | 3.4.6.9.(2) to (6) | Existing acceptable. |
| DE53 | 3.4.6.10.(1) and (2) | Existing acceptable. |
| DE54 | 3.4.6.11. | Existing acceptable in <i>public heritage buildings</i> or a change in <i>occupancy</i> with no increase in <i>occupant load</i> . |
| DE55 | 3.4.6.12.; 3.4.6.13. | Existing acceptable. |
| DE56 | 3.4.6.15. | Existing functionally operable panic hardware acceptable. |
| DE57 | 3.4.7.2. | <i>Combustible</i> fire escapes which are protected from fire in accordance with Sentence 3.2.3.13.(2) are permitted or may be reconstructed or recreated (as in the case of a <i>heritage building</i> .) |
| DE58 | 3.5.1. | Existing acceptable except where <i>building</i> is classified under Subsection 3.2.6. |
| DE59 | 3.6.2.1.(5) | Existing <i>fire separation</i> of not less than 30 min is acceptable |
| DE60 | 3.6.2.3. | Existing acceptable where explosion-resistant <i>construction</i> or venting is provided. |
| DE61 | 3.6.2.7. | Existing acceptable. |
| DE62 | 3.6.2.8.(1) | 2 h <i>fire separation</i> acceptable. |
| DE63 | 3.6.3.1.(1) to (5) | 45 min <i>fire separation</i> acceptable up to 6 storeys. |
| DE64 | 3.6.3.3. | (a) Where 2 h <i>fire separation</i> is required, 1 h is acceptable. (b) Where 1 h <i>fire separation</i> is required, 45 min is acceptable. (c) Existing need not comply with Sentence 3.5.3.3.(5). |
| DE65 | 3.6.4.2. | Ceiling <i>fire separation</i> need not be fire-resistance rated where sprinklering, subject to C.A. DE24, of <i>fire compartments</i> on both sides of vertical <i>fire separation</i> is provided and where such <i>fire separation</i> is not required to exceed 1 h. |
| DE66 | 3.6.4.3.(1) | Existing to meet <i>flame-spread rating</i> of 25 or to be <i>sprinklered</i> . |
| DE67 | 3.6.4.4.; 3.6.4.5.; 3.6.4.6. | Existing access acceptable. |
| DE68 | 3.7.4.2. | Where the <i>occupant load</i> is increased by more than 15% above the capacity of the existing facilities, facilities to be added to accommodate the increase. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 4 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|--|
| DE69 | 4.1.9. | The requirements under this Subsection do not apply. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 6 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|---|--|
| DE70 | 6.2.3.2.; 6.2.3.5.; 6.2.3.6.; 6.2.3.12. | Existing acceptable. |
| DE71 | 6.2.3.17. | Existing openings, grilles and diffusers acceptable, subject to approval of <i>chief building official</i> . |
| DE72 | 6.2.4.2.(1); 6.2.4.5.(1) to (3) | Existing acceptable. |
| DE73 | 6.2.4.5.(10) | Where the duct system is being altered, lesser amounts and extent of insulation will be permitted. |
| DE74 | 6.2.9.2. | Existing acceptable. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|---|
| DE75 | 9.3.2.1. | Sound used lumber may be acceptable for reuse without a grade stamp provided that: <ul style="list-style-type: none"> (a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, (b) where the grade or species is unknown, the minimum grade shall apply for span table use, and (c) lumber has not been subjected to termite infestation. |
| DE76 | 9.6.3.2. | Except where required in Article 9.9.2.7. existing acceptable, provided not less than 600 mm. |
| DE77 | 9.6.5. | Existing acceptable. |
| DE78 | 9.6.6.2.; 9.6.6.3. | Existing doors and sidelights being reused or relocated need not conform if identified or protected. |
| DE79 | 9.7.1.7. | Existing acceptable. |
| DE80 | 9.7.5. | Existing acceptable. |
| DE81 | 9.8.1. to 9.8.4. | Replacement or extension of existing stair systems shall be exempt from the provisions of these Articles, except that they shall have: <ul style="list-style-type: none"> (a) a minimum width between wall faces of 700 mm, and (b) a minimum clear height over tread nosing or landing of 1 800 mm. |
| DE82 | 9.8.2.2. | Existing acceptable. |
| DE83 | 9.8.5.2. | Existing curved or spiral stairs acceptable. |
| DE84 | 9.8.6. | Existing ramps acceptable, where practical. |
| DE85 | 9.8.7. | Existing handrails acceptable, unless considered unsafe by <i>chief building official</i> . |
| DE86 | 9.8.8. | Existing <i>guards</i> acceptable, unless considered unsafe by <i>chief building official</i> . |
| DE87 | 9.9.1.1. | Existing acceptable. |
| DE88 | 9.9.2.2. | The following types of <i>exits</i> may also be used: <ul style="list-style-type: none"> (a) connected balconies, which connect across <i>firewalls</i>, or connect to another <i>exit</i>, or with access to grade, (b) areas of refuge, approved by the <i>chief building official</i>, where fire service rescue is possible, or (c) <i>combustible</i> or <i>noncombustible</i> exterior stairways or fire escapes which are protected in accordance with Sentence 3.2.3.12.(2). These may be reconstructed or recreated (as in the case of a <i>heritage building</i>). |
| DE89 | 9.9.2.6. | Existing acceptable, provided that the enclosure has a 45 min <i>fire- resistance rating</i> . |
| Col. 1 | 2 | 3 |

| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|---|
| DE90 | 9.9.2.7. | Existing acceptable. |
| DE91 | 9.9.3.2. | Existing width of <i>exits</i> acceptable. |
| DE92 | 9.9.3.3. | Existing width of <i>public corridors</i> of not less than 965 mm is acceptable. |
| DE93 | 9.9.3.4. | Existing headroom clearance of not less than 1 950 mm is acceptable. |
| DE94 | 9.9.4.2. | 30 min <i>fire separation</i> acceptable. |
| DE95 | 9.9.5.4.; 9.9.5.5. | Existing acceptable. |
| DE96 | 9.9.5.8. | Existing acceptable provided minimum 45 min <i>fire separation</i> and where explosion-resistant <i>construction</i> or venting is provided. |
| DE97 | 9.9.6.2. | Existing acceptable. |
| DE98 | 9.9.6.3. | Existing headroom clearance of not less than 1 950 mm is acceptable, with existing door heights to be acceptable. |
| DE99 | 9.9.6.4. | Existing door widths and heights are acceptable, provided <i>exit</i> widths and heights comply with C.A.'s DE92 and DE93. |
| DE100 | 9.9.6.5. | Existing door swings are acceptable. Existing acceptable in <i>public heritage buildings</i> , where approved by <i>chief building official</i> . |
| DE101 | 9.9.6.6.(1) | Where <i>exit</i> doors open onto a landing, they shall not extend beyond the face of the first riser. |
| DE102 | 9.9.6.10. | Existing functionally operable passage or panic hardware acceptable. |
| DE103 | 9.9.7.3. | Maximum area of existing room or <i>suite</i> to be unlimited. |
| DE104 | 9.9.8.2.(1) | Existing travel distance acceptable where <i>floor area</i> is <i>sprinklered</i> and provided <i>fire separations</i> comply with Part 9 of the Code. |
| DE105 | 9.9.10.6. | Existing illuminated legible signs are acceptable for <i>exit</i> signs, if approved by <i>chief building official</i> . |
| DE106 | 9.10.1.1. | Assemblies required to be of <i>noncombustible construction</i> may be supported by <i>combustible construction</i> having at least the same <i>fire-resistance rating</i> as that supported. |
| DE107 | 9.10.1.3.(8) | Existing installations acceptable subject to C.A.'s DE22 and DE24. |
| DE108 | 9.10.3. | <i>Fire-resistance ratings</i> may also be used where they are based on: <ol style="list-style-type: none"> 1. HUD No. 8 Guideline on Fire Ratings of Archaic Materials and Assemblies. 2. Fire Endurance of Protected Steel Columns and Beams, DBR Technical Paper No. 194. 3. Fire Endurance of Unit Masonry Walls, DBR Technical Paper No. 207. 4. Fire Endurance of Light-Framed and Miscellaneous Assemblies, DBR Technical Paper No. 222. |
| DE109 | 9.10.5.1. | (a) Existing openings in existing wall or ceiling membranes to remain. (b) Existing openings may be moved to another location in the same wall or ceiling, provided the aggregate area of openings does not increase and are not cumulative, and the existing opening is blocked up to provide the same rating as the existing wall or ceiling assembly. |
| DE110 | 9.10.6.2. | Existing <i>heavy timber construction</i> acceptable where <i>construction</i> is within 90% of the member sizes listed in Part 3. |
| DE111 | 9.10.7. | Existing acceptable for <i>heritage buildings</i> , subject to approval of <i>chief building official</i> . |
| DE112 | 9.10.8.1. | Existing 30 min rating acceptable. |
| DE113 | 9.10.8.2. | Existing sprinkler systems complying with C.A. DE24 and Sentence 3.2.2.17.(1) are acceptable. |
| DE114 | 9.10.8.3. | Existing acceptable, subject to approval of the <i>chief building official</i> . |
| DE115 | 9.10.8.7. | 30 min rating acceptable. |
| DE116 | 9.10.9.7.; 9.10.9.9. | Existing acceptable in existing <i>fire separations</i> . |
| Col. 1 | 2 | 3 |

| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|---|
| DE117 | 9.10.9.10.(1) | Ceiling <i>fire separation</i> need not be fire-resistance rated where sprinklering of <i>fire compartments</i> on both sides of vertical <i>fire separation</i> is provided and where such <i>fire separation</i> is not required to exceed 1 h. |
| DE118 | 9.10.9.11.(2) | In lieu of the 2 h <i>fire separation</i> , sprinklers may be used in the <i>mercantile occupancy</i> with a 1 h <i>fire separation</i> . |
| DE119 | 9.10.9.13. | 30 min <i>fire separation</i> acceptable. |
| DE120 | 9.10.9.15.(1) | 30 min <i>fire separation</i> acceptable. |
| DE121 | 9.10.9.15.(3) | Need not comply for <i>mercantile occupancy</i> . |
| DE122 | 9.10.10.3.(1) | 45 min <i>fire separation</i> acceptable. |
| DE123 | 9.10.12.1. | Need not comply for <i>mercantile occupancy</i> . |
| DE124 | 9.10.13.1. | Existing functional <i>closures</i> are acceptable subject to C.A. DE8. |
| DE125 | 9.10.13.2. | Existing acceptable. |
| DE126 | 9.10.13.3. | Existing acceptable, provided that wood door frames are secured with hinge screws going through frame into the stud. |
| DE127 | 9.10.13.5. | Existing acceptable. Existing transoms or sidelights located in required <i>fire separations</i> may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed. |
| DE128 | 9.10.13.6. | Existing steel door frames acceptable. |
| DE129 | 9.10.13.7. | Existing glass block acceptable. |
| DE130 | 9.10.13.8. | Existing sizes acceptable. |
| DE131 | 9.10.13.9. | Existing operable latches acceptable. |
| DE132 | 9.10.13.10.(1) | Existing functionally operable self-closing device acceptable. |
| DE133 | 9.10.13.10.(2) | Existing functionally operable self-closing devices acceptable in "E" occupancy. |
| DE134 | 9.10.13.11. | Existing operable self-releasing electromagnetic and fusible link hold-open devices acceptable. |
| DE135 | 9.10.13.12. | Existing swings acceptable. |
| DE136 | 9.10.14.1. | Existing windows (a) existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another <i>building</i> , lies no closer than 300 mm from a window in such other <i>building</i> , where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, to be restricted to the same <i>fire compartment</i> and shall conform to the requirements of Articles 3.2.3.14. or 9.10.12.4. where applicable, or (c) where a <i>building</i> does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient <i>limiting distance</i> , such existing openings are allowed to be relocated provided: (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.14.(2), or (ii) the <i>building</i> is <i>sprinklered</i> . |
| DE137 | 9.10.15.2.(1) | Where balloon framing is exposed during renovation, fire stopping shall be provided. |
| DE138 | 9.10.17. | (a) subject to approval by the <i>chief building official</i> , existing fire alarm system may remain where the Fire Safety Plan for the <i>building</i> addresses the intent of 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility. |
| DE139 | 9.10.19. | Existing access acceptable. |
| DE140 | 9.18.2. | Existing access acceptable. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|--|
| DE141 | 9.18.3. | Existing vents and ventilation acceptable. |
| DE142 | 9.19. | Existing acceptable. |
| DE143 | 9.20.2.2. | Used masonry may be reused for patching and filling openings to match adjacent work. Used interior brick may not be used for exterior applications. |
| DE144 | 9.20.3. | Archaic mortars may be used to match existing jointing. |
| DE145 | 9.20.4.1. | Sound jointing techniques may be employed to match existing archaic joints. |
| DE146 | 9.20.12.1. | Corbelling may be constructed to match existing or original details, provided that it is structurally adequate for the proposed use. |
| DE147 | 9.21. | Existing acceptable, provided the products of combustion are safely vented and provided no fire hazard is created. |
| DE148 | 9.22.1. to 9.22.7. | Sound period materials, designs and techniques may be employed in recreated fireplaces, provided no fire hazard is created. Existing need not comply with Article 9.22.1.4. |
| DE149 | 9.23. | Existing acceptable. |
| DE150 | 9.24. | Existing acceptable. |
| DE151 | 9.25.2.1.(5) to (7) | Existing acceptable. |
| DE152 | 9.26. | Existing acceptable, except when removing and replacing shingles, comply with eave protection requirements in Subsection 9.26.5. |
| DE153 | 9.27. | Existing acceptable. |
| DE154 | 9.28. | All replacement or recreation of existing stucco may be compatible with the existing materials and application. |
| DE155 | 9.29.4. | Existing acceptable. All replacement or recreation of existing plaster may be compatible with the existing materials and application. |
| DE156 | 9.33.1.2. | Sound, used or antique <i>appliances</i> are acceptable, provided that: (a) visual examination shows no excessive weakening by corrosion or other damage, (b) no structural parts are missing, (c) no cracks are present in the components intended to support the <i>appliance</i> or enclose the fire, and (d) loading and ash removal door latches and hinges hold the door closed. |
| DE157 | 9.34.4.1.; 9.34.4.3. | Existing meter mounting devices and overhead and underground supply need not be relocated to these requirements during renovations. |
| DE158 | 9.34.4.4.; 9.34.4.5. | Existing acceptable. |
| DE159 | 9.37. | Sound used materials shall be acceptable for reuse, subject to the following limitations: (a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, and (b) logs have not be subjected to termite infestation. |
| Col. 1 | 2 | 3 |

Table 11.5.1.1.F.

Compliance Alternatives for Industrial Occupancies

Forming Part of Article 11.5.1.1.

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|---|---|
| F1 | 3.1.4.6. | Existing <i>heavy timber construction</i> acceptable where <i>construction</i> is within 90% of member sizes listed in Part 3. |
| F2 | 3.1.5.2.; 3.1.5.3.; 3.1.5.4.; 3.1.5.6. | Existing acceptable. |
| F3 | 3.1.5.7.; 3.1.5.8.; 3.1.5.9.; 3.1.5.10. | Except for exposed foamed plastics, existing acceptable for "F2" and "F3" <i>occupancies</i> . To match existing, materials may be added from on or off site. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|---|--|
| F4 | 3.1.5.14.; 3.1.5.15.; 3.1.5.16.; 3.1.5.20.; 3.1.5.22. | Existing acceptable. |
| F5 | 3.1.7.1. | <p><i>Fire-resistance ratings</i> may also be used where they are based on:</p> <ol style="list-style-type: none"> 1. HUD No. 8 Guideline on Fire Ratings of Archaic Materials and Assemblies. 2. Fire Endurance of Protected Steel Columns and Beams, DBR Technical Paper No. 194. 3. Fire Endurance of Unit Masonry Walls, DBR Technical Paper No. 207. 4. Fire Endurance of Light-Framed and Miscellaneous Assemblies, DBR Technical Paper No. 222. |
| F6 | 3.1.7.5.(3) | Existing assemblies required to be of <i>noncombustible construction</i> may be supported by <i>combustible construction</i> having at least the same <i>fire-resistance rating</i> as that supported. |
| F7 | 3.1.8.1.(2); 3.1.8.6. | Existing functional <i>clasures</i> are acceptable and may be relocated within the same <i>fire separation</i> . |
| F8 | 3.1.8.5.(2) | <ol style="list-style-type: none"> (a) existing functional and sound doors in existing <i>buildings</i> that are either hollow metal or kalamein and containing wired glass at least 6 mm thick and conforming to Sentence 3.1.8.14.(2) are permitted in lieu of doors not required to exceed 45 min, (b) all existing functional and sound hollow metal or kalamein doors which carry existing 1.5 h labels are acceptable in lieu of current 1.5 h labels and may contain wired glass panels not exceeding 0.0645 m², at least 6 mm thick and conforming to Sentence 3.1.8.14.(2), and (c) every fire door, window assembly or glass block used as a <i>closure</i> in a required <i>fire separation</i> shall be installed in conformance with good engineering practice. |
| F9 | 3.1.8.7.; 3.1.8.9. | <i>Fire dampers</i> or <i>fire stop flaps</i> are not required to be installed in existing ducts at penetrations of existing <i>fire separations</i> . |
| F10 | 3.1.8.10.(1) | For existing unlabelled doors in existing <i>buildings</i> , at least 45 mm solid core wood or metal clad are acceptable. |
| F11 | 3.1.8.11.(1) | Existing functionally operable devices acceptable for "F2" and "F3" <i>occupancies</i> . |
| F12 | 3.1.8.13. | Existing functionally operable latching devices, excluding draw bolts, are acceptable. |
| F13 | 3.1.8.14. | Existing transoms or sidelights located in required <i>fire separations</i> may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed. |
| F14 | 3.1.8.15.; 3.1.5.16.; 3.1.8.17. | Existing acceptable. |
| F15 | 3.1.11. | Where the concealed space is being materially altered, smoke or heat detection in that space in lieu of firestops and tied into fire alarm system is acceptable. |
| F16 | 3.2.2.17.(1)(b) and (c) | Existing sprinkler systems in 1 <i>storey buildings</i> need not comply. |
| F17 | 3.2.3. | <p>Existing need not comply with Article 3.2.3.17. For "F2" occupancy.</p> <p>Existing windows</p> <ol style="list-style-type: none"> (a) existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another <i>building</i>, lies not closer than 300 mm from a window in such other <i>building</i>, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, shall be restricted to the same <i>fire compartment</i> and shall conform to the requirements of Articles 3.2.3.13. or 9.10.12.4. where applicable, or (c) where a <i>building</i> does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient <i>limiting distance</i>, such existing openings are allowed to be relocated provided: <ol style="list-style-type: none"> (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.14.(2), or (ii) the <i>building</i> is <i>sprinklered</i>. |
| F18 | 3.2.3.16. | Need not comply for "F2" <i>occupancy</i> . |
| Col. 1 | 2 | 3 |

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|---|---|
| F19 | 3.2.4. | (a) existing fire alarm system may remain except that Article 3.2.4.5. does not apply where the "Fire Safety Plan" (as described in Subsection 2.8.2. of the Ontario Fire Code) for the <i>building</i> addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system. |
| F20 | 3.2.5.1; 3.2.5.2. | Existing acceptable. |
| F21 | 3.2.5.3. | Existing access acceptable. |
| F22 | 3.2.5.4.; 3.2.5.5.; 3.2.5.6. | Existing acceptable provided the <i>building</i> is <i>sprinklered</i> . |
| F23 | 3.2.5.7. | Does not apply, except where a change in <i>major occupancy</i> occurs from a lesser <i>hazard index</i> . |
| F24 | 3.2.5.13. | Existing sprinkler systems in existing <i>buildings</i> that do not conform to NFPA 13 may be altered, added to, or extended from the existing system without complying with NFPA 13, provided the system is operational and adequate with respect to coverage, water supply and controls, and provided the system is evaluated by a qualified designer. |
| F25 | 3.2.6. Additional requirements for high buildings. | Reserved |
| F26 | 3.2.9. | May not apply to <i>buildings</i> 6 storeys and less of "F2" and "F3" <i>occupancies</i> . Does not apply to <i>sprinklered buildings</i> . |
| F27 | 3.3.1.4.(1) | 30 min is acceptable to separate <i>public corridors</i> or <i>exits</i> in <i>buildings</i> not exceeding 6 storeys in <i>building height</i> , except that 45 min is required for <i>exits</i> in <i>buildings</i> exceeding 3 storeys in <i>building height</i> . Except for <i>exits</i> , no rating required where <i>floor areas</i> are <i>sprinklered</i> . |
| F28 | 3.3.1.5.(1)(c); Table 3.3.1.5. | For "F2" and "F3" <i>occupancies</i> in Column 2, maximum area of room or <i>suite</i> to be unlimited. |
| F29 | 3.3.1.9. | Existing width of <i>public corridors</i> of not less than 914 mm is acceptable. |
| F30 | 3.3.1.9.(13) and (14) | Need not comply where connected balcony or area of refuge is provided complying with C.A. F37. |
| F31 | 3.3.1.10.; 3.3.1.11. | Existing door swings may remain in <i>heritage buildings</i> , existing or being restored, with no change in <i>major occupancy</i> and with <i>occupant load</i> no greater than 100. |
| F32 | 3.3.1.12. | Existing doors acceptable, provided not less than 600 mm wide. |
| F33 | 3.3.1.15. | Existing curved or spiral staircase acceptable. |
| F34 | 3.3.1.18. | Existing stained, etched, bevelled, leaded or figured glass acceptable. |
| F35 | 3.3.5.4.(2), (3), and (5) | Existing acceptable. |
| F36 | 3.3.5.6.; 3.3.5.7. | Need not comply where a gasketed door and self closer are provided in the existing <i>fire separation</i> . |
| F37 | 3.4.1.4. | For "F2" and "F3" <i>occupancies</i> , the following types of <i>exits</i> may also be used for <i>buildings</i> not over 6 storeys in <i>building height</i> : (a) connected balconies, which connect across firewalls, or connect to another <i>exit</i> , or with access to grade. (b) areas of refuge where fire service rescue is possible and that comply with Measure L in Sentences (4) to (10) and (20)(a), (b) and (d) in the Supplementary Guidelines. |
| F38 | 3.4.1.8. | Existing stained, etched, bevelled, leaded or figured glass acceptable. |
| F39 | 3.4.2.5.(1) | For "F2" and "F3" <i>occupancies</i> , existing travel distance acceptable where the <i>floor area</i> is <i>sprinklered</i> . |
| F40 | 3.4.3.1.(2) | For "F2" and "F3" existing width of <i>exits</i> acceptable provided the <i>occupant load</i> in not more than 15% above the <i>exit</i> capacity. |
| F41 | 3.4.3.5. | Existing acceptable. |
| F42 | 3.4.3.6. | Existing headroom clearance of not less than 1 980 mm is acceptable. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 3 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------------|---|
| F43 | 3.4.4.1. | <i>Fire separations of exits permitted in buildings:</i> - 30 min, up to 3 storeys in building height; - 45 min, up to 6 storeys in building height; - 1 h, over 6 storeys in building height. |
| F44 | 3.4.4.4.(7) | Existing washrooms opening directly into <i>exit</i> stairwell shall be separated from <i>exit</i> stairwell by 45 min closure. |
| F45 | 3.4.5.1.(2) and (7) | Existing illuminated legible <i>exit</i> signs are acceptable. |
| F46 | 3.4.6.1. | Existing acceptable. |
| F47 | 3.4.6.2. | Existing acceptable, if visually apparent. |
| F48 | 3.4.6.3.(1) and (2) | Existing acceptable with rise no greater than 3.7 m. |
| F49 | 3.4.6.3.(3) and (4) | Existing acceptable. |
| F50 | 3.4.6.4.(2) to (8) | Existing acceptable. |
| F51 | 3.4.6.5.(1) to (5) | Existing acceptable. |
| F52 | 3.4.6.6.(1) | Existing acceptable. |
| F53 | 3.4.6.7.; 3.4.6.8. | Existing acceptable. |
| F54 | 3.4.6.9.(2) to (6) | Existing acceptable. |
| F55 | 3.4.6.10.(1) and (2) | Existing acceptable. |
| F56 | 3.4.6.11. | For "F2" and "F3" existing acceptable in <i>public heritage buildings</i> or a change in <i>occupancy</i> with no increase in <i>occupant load</i> . |
| F57 | 3.4.6.12.; 3.4.6.13. | Existing acceptable. |
| F58 | 3.4.6.15. | Existing functionally operable panic hardware acceptable. |
| F59 | 3.4.7.2. | <i>Combustible</i> fire escapes which are protected from fire in accordance with Sentence 3.2.3.13.(2) are permitted or may be reconstructed or recreated (as in the case of a <i>heritage building</i>). |
| F60 | 3.5.1. | Existing acceptable, except where <i>building</i> classified under Subsection 3.2.6. and except where existing elevators are "open" type. |
| F61 | 3.6.2.1.(5) | 45 min <i>fire separation</i> acceptable. |
| F62 | 3.6.2.3. | Existing acceptable where explosion-resistant <i>construction</i> or venting is provided. |
| F63 | 3.6.2.7. | Existing acceptable. |
| F64 | 3.6.2.8.(1) | 2 h <i>fire separation</i> acceptable. |
| F65 | 3.6.3.1.(1) to (5) | 45 min <i>fire separation</i> acceptable up to 6 storeys. |
| F66 | 3.6.3.3. | (a) where 2 h <i>fire separation</i> is required, 1 h is acceptable. (b) where 1 h <i>fire separation</i> is required, 45 min is acceptable. (c) existing need not comply with Sentences 3.5.3.3.(4) and (5). |
| F67 | 3.6.4.2. | Ceiling <i>fire separation</i> need not be fire-resistance rated where sprinklering, subject to C.A. F24, of <i>fire compartments</i> on both sides of vertical <i>fire separation</i> is provided and where such <i>fire separation</i> is not required to exceed 1 h. |
| F68 | 3.6.4.3.(1) | Existing to meet <i>flame-spread</i> rating of 25 or to be <i>sprinklered</i> . |
| F69 | 3.6.4.4.; 3.6.4.5.; 3.6.4.6. | Existing access acceptable. |
| F70 | 3.7.4.2. | Where the <i>occupant load</i> is increased by more than 15% above the capacity of the existing facilities, facilities to be added to accommodate the increase. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 4 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|--|
| F71 | 4.1.9. | The requirements under this Subsection do not apply. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 6 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|---|---|
| F72 | 6.2.2.3.(1), (3), and (4) | <i>Storage garages</i> with a total capacity of less than 20 motor vehicles need not have mechanical ventilating systems if the downward slope of the floor to the outside door is 1 in 120 and the garage floor is above outside ground level. |
| F73 | 6.2.3.2.; 6.2.3.5.; 6.2.3.6.; 6.2.3.12. | Existing acceptable for "F2" and "F3" <i>occupancies</i> . |
| F74 | 6.2.3.17. | Existing openings, grilles and diffusers acceptable. |
| F75 | 6.2.4.2.(1); 6.2.4.5.(1) to (3) | Existing acceptable. |
| F76 | 6.2.4.5.(10) | Where the duct system is being altered, lesser amounts and extent of insulation will be permitted. |
| F77 | 6.2.9.2. | Existing acceptable for "F2" and "F3" <i>occupancies</i> . |
| Col. 1 | 2 | 3 |

| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|---|
| F78 | 9.3.2.1. | Sound used lumber may be acceptable for reuse without a grade stamp provided that: <ul style="list-style-type: none"> (a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, (b) where the grade or species is unknown, the minimum grade shall apply for span table use, and (c) lumber has not been subjected to termite infestation. |
| F79 | 9.6.3.2. | Except where required in Article 9.9.2.7. existing acceptable, provided not less than 600 mm. |
| F80 | 9.6.5. | Existing acceptable. |
| F81 | 9.6.6.2.; 9.6.6.3. | Existing doors and sidelights being reused or relocated need not conform if identified or protected. |
| F82 | 9.7.1.7. | Existing acceptable. |
| F83 | 9.7.5. | Existing barriers acceptable. |
| F84 | 9.8.1. to 9.8.4. | Replacement or extension of existing stair systems shall be exempt from the provisions of these Articles, except that they shall have: <ul style="list-style-type: none"> (a) a minimum width between wall faces of 700 mm, and (b) a minimum clear height over tread nosing or landing of 1 800 mm. |
| F85 | 9.8.5.2. | Existing curved or spiral stairs acceptable. |
| F86 | 9.8.6. | Existing ramps acceptable, where practical. |
| F87 | 9.8.7. | Existing handrails acceptable, unless considered unsafe by <i>chief building official</i> . |
| F88 | 9.8.8. | Existing <i>guards</i> acceptable, unless considered unsafe by <i>chief building official</i> . |
| F89 | 9.8.9.5.(2) | Existing acceptable. |
| F90 | 9.9.1.1. | Existing acceptable. |
| F91 | 9.9.2.2. | The following types of <i>exits</i> may also be used: <ul style="list-style-type: none"> (a) connected balconies, which connect across <i>firewalls</i>, or connect to another <i>exit</i>, or with access to grade, (b) areas of refuge approved by the <i>chief building official</i> where fire service rescue is possible, or (c) <i>combustible</i> or <i>noncombustible</i> exterior stairways or fire escapes which are protected in accordance with Sentence 3.2.3.13.(2). These may be reconstructed or recreated (as in the case of a <i>heritage building</i>). |
| F92 | 9.9.2.6. | Existing acceptable, provided that the enclosure has a 45 min <i>fire-resistance rating</i> . |
| F93 | 9.9.2.7. | Existing acceptable. |
| F94 | 9.9.3.2. | Existing width of <i>exits</i> acceptable. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|---|
| F95 | 9.9.3.3. | Existing width of <i>public corridors</i> of not less than 965 mm is acceptable. |
| F96 | 9.9.3.4. | Existing headroom clearance of not less than 1 950 mm is acceptable. |
| F97 | 9.9.4.2.(1) | 30 min <i>fire separation</i> acceptable. |
| F98 | 9.9.5.4.; 9.9.6.2. | Existing acceptable. |
| F99 | 9.9.5.8. | Existing acceptable provided minimum 45 min <i>fire separation</i> and where explosion-resistant <i>construction</i> or venting is provided. |
| F100 | 9.9.6.3. | Existing headroom clearance of not less than 1 950 mm is acceptable, with existing door heights to be acceptable. |
| F101 | 9.9.6.4. | Existing door widths and heights are acceptable, provided <i>exit</i> widths and heights comply with C.A.'s F95 and F96. |
| F102 | 9.9.6.5. | Existing door swings acceptable. Existing acceptable in <i>public heritage buildings</i> , where approved by <i>chief building official</i> . |
| F103 | 9.9.6.6.(1) | Where <i>exit</i> doors open onto a landing, such doors shall not extend beyond the face of the first riser. |
| F104 | 9.9.6.10. | Existing functionally operable passage or panic hardware acceptable. |
| F105 | 9.9.7.3. | Maximum area of existing room or <i>suite</i> does not apply. |
| F106 | 9.9.8.2.(1) | Existing travel distance acceptable where <i>floor area</i> is <i>sprinklered</i> and provided <i>fire separations</i> comply with Part 9 of the Code. |
| F107 | 9.9.10.6. | Existing illuminated legible signs are acceptable for <i>exit</i> signs, if approved by <i>chief building official</i> . |
| F108 | 9.10.1.1. | Assemblies required to be of <i>combustible construction</i> may be supported by <i>combustible construction</i> having at least the same <i>fire-resistance rating</i> as that supported. |
| F109 | 9.10.1.3.(8) | Existing acceptable subject to C.A.'s F24 and F26. |
| F110 | 9.10.3. | <i>Fire-resistance ratings</i> may also be used where they are based on: <ol style="list-style-type: none"> 1. HUD No. 8 Guideline on Fire Ratings of Archaic Materials and Assemblies. 2. Fire Endurance of Protected Steel Columns and Beams, DBR Technical Paper No. 194. 3. Fire Endurance of Unit Masonry Walls, DBR Technical Paper No. 207. 4. Fire Endurance of Light-Framed and Miscellaneous Assemblies, DBR Technical Paper No. 222. |
| F111 | 9.10.5.1. | Existing openings in existing wall or ceiling membranes to remain. Existing openings may be moved to another location in the same wall or ceiling, provided the aggregate area of openings does not increase and are not cumulative, and the existing opening is blocked up to provide the same rating as the existing wall or ceiling assembly. |
| F112 | 9.10.6.2. | Existing <i>heavy timber construction</i> acceptable where <i>construction</i> is within 90% of the member sizes listed in Part 3. |
| F113 | 9.10.7. | Existing acceptable for <i>heritage buildings</i> , subject to approval of <i>chief building official</i> . |
| F114 | 9.10.8.1. | Existing 30 min rating acceptable. |
| F115 | 9.10.8.2. | Existing sprinkler systems complying with C.A. F24 and Sentence 3.2.2.17.(1) are acceptable. |
| F116 | 9.10.8.3. | Existing acceptable, subject to approval of <i>chief building official</i> . |
| F117 | 9.10.8.7. | 30 min rating acceptable. |
| F118 | 9.10.9.7.; 9.10.9.9. | Existing acceptable in existing <i>fire separations</i> . |
| F119 | 9.10.9.10.(1) | Ceiling <i>fire separation</i> need not be fire-resistance rated where sprinklering of <i>fire compartments</i> on both sides of vertical <i>fire separation</i> is provided and where such <i>fire separation</i> is not required to exceed 1 h. |
| F120 | 9.10.9.11.(2) | In lieu of the 2 h <i>fire separation</i> , sprinklers may be used in the <i>medium hazard industrial occupancy</i> with a 1 h <i>fire separation</i> . |
| Col. 1 | 2 | 3 |

| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|---------------------------|---|
| F121 | 9.10.9.13.; 9.10.9.15.(1) | 30 min <i>fire separation</i> acceptable. |
| F122 | 9.10.10.3.(1) | 45 min <i>fire separation</i> acceptable. |
| F123 | 9.10.12.1. | Need not comply for <i>medium hazard industrial occupancy</i> . |
| F124 | 9.10.13.1. | Existing functional <i>closures</i> are acceptable subject to C.A. F8. |
| F125 | 9.10.13.2. | Existing acceptable. |
| F126 | 9.10.13.3. | Existing acceptable, provided that wood door frames are secured with hinge screws going through frame into the stud. |
| F127 | 9.10.13.5. | Existing wired glass acceptable. Existing transoms or sidelights located in required <i>fire separations</i> may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed. |
| F128 | 9.10.13.6. | Existing steel door frames acceptable. |
| F129 | 9.10.13.7. | Existing glass block acceptable. |
| F130 | 9.10.13.8. | Existing sizes acceptable. |
| F131 | 9.10.13.9. | Existing operable latches acceptable. |
| F132 | 9.10.13.10.(1) | Existing operable self-closing devices acceptable. |
| F133 | 9.10.13.11. | Existing operable self-releasing electromagnetic and fusible link hold-open devices acceptable. |
| F134 | 9.10.13.12. | Existing swings acceptable. |
| F135 | 9.10.14.1. | Existing windows (a) existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another <i>building</i> , lies no closer than 300 mm from a window in such other <i>building</i> , where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, to be restricted to the same <i>fire compartment</i> and shall conform to the requirements of Articles 3.2.3.13. or 9.10.12.4. where applicable, or (c) where a <i>building</i> does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient <i>limiting distance</i> , such existing openings are allowed to be relocated provided: (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.14.(2), or (ii) the <i>building</i> is <i>sprinklered</i> . |
| F136 | 9.10.15.2.(1) | Where balloon framing is exposed during renovation, fire stopping shall be provided. |
| F137 | 9.10.17. | (a) subject to approval by the <i>chief building official</i> , existing fire alarm system may remain where the Fire Safety Plan for the <i>building</i> addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system. |
| F138 | 9.10.19. | Existing access acceptable. |
| F139 | 9.18.2. | Existing access acceptable. |
| F140 | 9.18.3. | Existing vents and ventilation acceptable. |
| F141 | 9.19.2.1. | Existing access acceptable. |
| F142 | 9.20.2.2. | Used masonry may be reused for patching and filling openings to match adjacent work. Used interior brick may not be used for exterior applications. |
| F143 | 9.20.3. | Archaic mortars may be used to match existing jointing. |
| F144 | 9.20.4.1. | Sound jointing techniques may be employed to match existing archaic joints. |
| Col. 1 | 2 | 3 |

| NUMBER | PART 9 REQUIREMENTS | PART 11 COMPLIANCE ALTERNATIVE |
|--------|------------------------|---|
| F145 | 9.20.12.1. | Corbelling may be constructed to match existing or original details, provided that it is structurally adequate for the proposed use. |
| F146 | 9.21. | Existing acceptable, provided the products of combustion are safely vented and provided no fire hazard is created. |
| F147 | 9.22.1. to 9.22.7. | Sound period materials, designs and techniques may be employed in recreated fireplaces provided no fire hazard is created. Existing need not comply with Article 9.22.1.4. |
| F148 | 9.23. | Existing acceptable. |
| F149 | 9.24. | Existing acceptable. |
| F150 | 9.25.2.1.(5) to (7) | Existing acceptable. |
| F151 | 9.26. | Existing acceptable. |
| F152 | 9.27. | Existing acceptable. |
| F153 | 9.28. | All replacement or recreation of existing stucco may be compatible with the existing materials and application. |
| F154 | 9.29.4. | Existing acceptable. All replacement or recreation of existing plaster may be compatible with the existing materials and application. |
| F155 | 9.33.1.2. | Sound, used or antique <i>appliances</i> are acceptable, provided that: <ul style="list-style-type: none"> (a) visual examination shows no excessive weakening by corrosion or other damage, (b) no structural parts are missing, (c) no cracks are present in the components intended to support the <i>appliance</i> or enclose the fire, and (d) loading and ash removal door latches and hinges hold the door closed. |
| F156 | 9.34.4.1.; 9.34.4.3. | Existing meter mounting devices and overhead and underground supply need not be relocated to these requirements during renovations. |
| F157 | 9.34.4.4.; 9.34.4.5. | Existing acceptable. |
| F158 | 9.37. | Sound used materials shall be acceptable for reuse, subject to the following limitations: <ul style="list-style-type: none"> (a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, and (b) logs have not been subjected to termite infestation. |
| Col. 1 | 2 | 3 |

Part 12

Transition, Revocation and Commencement

| | | |
|---------|---------|-----------------|
| Section | 12.1. | Transition Rule |
| | 12.1.1. | Transition Rule |
| Section | 12.2. | Revocation |
| | 12.2.1. | Revocation |
| Section | 12.3. | Commencement |
| | 12.3.1. | Commencement |

Part 12

Transition, Revocation and Commencement

Section 12.1. Transition Rule

12.1.1. Transition Rule

12.1.1.1. Continuation of Regulation 61 of R.R.O. 1990

(1) Notwithstanding the revocation of Regulation 61 of the Revised Regulations of Ontario, 1990, that Regulation continues in force in respect of *construction*

- (a) for which a permit has been issued before the 16th day of March, 1998, or
- (b) for which the working drawings, plans and specifications are substantially completed before the 16th day of March, 1998, and for which an application for a permit under Regulation 61 of the Revised Regulations of Ontario, 1990 is made before the 15th day of June, 1998

on condition that the *construction* is commenced within six months after the permit is issued.

Section 12.2. Revocation

12.2.1. Revocation

12.2.1.1. Revocation

(1) Regulation 61 of the Revised Regulations of Ontario, 1990 and Ontario Regulations 400/91, 158/93, 160/93, 383/94, 20/95 and 395/96 are revoked.

Section 12.3. Commencement

12.3.1. Commencement

12.3.1.1. Effective Date

- (1) This Regulation comes into force on March 16, 1998.

48/97

Publications under the Regulations Act Publications en vertu de la Loi sur les règlements

1997—12—06

ONTARIO REGULATION 407/97 made under the FIRE PROTECTION AND PREVENTION ACT, 1997

Made: November 12, 1997

Filed: November 13, 1997

APPOINTMENT OF ARBITRATORS AND CONCILIATION OFFICERS

1. A conciliation officer described in section 49 of the Act shall be appointed by the Minister.

2. (1) For the purpose of subsection 53 (3) of the Act, the parties shall jointly appoint a single arbitrator.

(2) If there is a failure to jointly appoint a single arbitrator, the Minister, upon request of either party, may appoint the arbitrator, and any person so appointed by the Minister shall be deemed to have been appointed in accordance with the collective agreement.

JAMES MICHAEL FLAHERTY
Minister of Labour

Dated on November 12, 1997.

49/97

ONTARIO REGULATION 408/97 made under the MUNICIPAL ACT

Made: November 13, 1997

Filed: November 14, 1997

Amending O. Reg. 215/96
(Assumption of Powers)

Note: Ontario Regulation 215/96 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 2 of Ontario Regulation 215/96 is amended by adding the following paragraph:

7. Police services and policing facilities in accordance with the *Police Services Act*.

AL LEACH
Minister of Municipal Affairs and Housing

Dated on November 13, 1997.

49/97

RÈGLEMENT DE L'ONTARIO 408/97 pris en application de la LOI SUR LES MUNICIPALITÉS

pris le 13 novembre 1997

déposé le 14 novembre 1997

modifiant le Règl. de l'Ont. 215/96
(Prise en charge de pouvoirs)

Remarque : Le Règlement de l'Ontario 215/96 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. L'article 2 du Règlement de l'Ontario 215/96 est modifié par adjonction de la disposition suivante :

7. Conformément à la *Loi sur les services policiers*, les services et installations policiers.

AL LEACH
Ministre des Affaires municipales et du Logement

Fait le 13 novembre 1997.

ONTARIO REGULATION 409/97

made under the
MUNICIPAL ACT

Made: November 14, 1997
Filed: November 14, 1997

Amending O. Reg. 27/96
(Licensing Powers)

Note: Since January 1, 1997, Ontario Regulation 27/96 has been amended by Ontario Regulations 379/97 and 405/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Ontario Regulation 27/96 is amended by adding the following section:

5. (1) A municipality, including a regional municipality, does not have the power under Part XVII.1 or section 232 of the *Municipal Act*, section 106 of the *Regional Municipalities Act*, subsection 38 (1) of the *Regional Municipality of Haldimand-Norfolk Act*, section 48 of the *Regional Municipality of Hamilton-Wentworth Act*, subsection 41 (2) of the *Regional Municipality of Sudbury Act*, section 36 of the *Regional Municipality of Waterloo Act* or subsection 30 (4) or (5) of the *Regional Municipality of York Act* to license, regulate or govern,

- (a) a transportation business wherein property is conveyed in motor vehicles used for hire (other than buses, cabs and tow trucks); or
- (b) the owners or drivers of motor vehicles used for hire (other than buses, cabs and tow trucks) for the conveyance of property.

(2) A municipality, including a regional municipality, does not have the power under Part XVII.1 or section 232 of the *Municipal Act*, section 106 of the *Regional Municipalities Act*, subsection 38 (1) of the *Regional Municipality of Haldimand-Norfolk Act*, section 48 of the *Regional Municipality of Hamilton-Wentworth Act*, subsection 41 (2) of the *Regional Municipality of Sudbury Act*, section 36 of the *Regional Municipality of Waterloo Act* or subsection 30 (4) or (5) of the *Regional Municipality of York Act* to regulate or govern motor vehicles used for hire (other than buses, cabs and tow trucks) for the conveyance of property.

2. This Regulation comes into force on January 2, 1998.

AL LEACH
Minister of Municipal Affairs and Housing

Dated on November 13, 1997.

49/97

RÈGLEMENT DE L'ONTARIO 409/97

pris en application de la
LOI SUR LES MUNICIPALITÉS

pris le 14 novembre 1997
déposé le 14 novembre 1997

modifiant le Règl. de l'Ont. 27/96
(Pouvoirs en matière de délivrance de permis)

Remarque : Depuis le 1^{er} janvier 1997, le Règlement de l'Ontario 27/96 a été modifié par les Règlements de l'Ontario 379/97 et 405/97. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. Le Règlement de l'Ontario 27/96 est modifié par adjonction de l'article suivant :

5. (1) La partie XVII.1 ou l'article 232 de la *Loi sur les municipalités*, l'article 106 de la *Loi sur les municipalités régionales*, le paragraphe 38 (1) de la *Loi sur la municipalité régionale de Haldimand-Norfolk*, l'article 48 de la *Loi sur la municipalité régionale de Hamilton-Wentworth*, le paragraphe 41 (2) de la *Loi sur la municipalité régionale de Sudbury*, l'article 36 de la *Loi sur la municipalité régionale de Waterloo* ou le paragraphe 30 (4) ou (5) de la *Loi sur la municipalité régionale de York* ne confère à aucune municipalité, y compris une municipalité régionale, le pouvoir d'assujettir à l'obtention de permis, de réglementer ou de régir, selon le cas :

- a) une entreprise de transport où des biens sont transportés dans des véhicules automobiles utilisés à des fins de location (autres que les autobus, les taxis et les dépanneuses);
- b) les propriétaires ou les chauffeurs de véhicules automobiles utilisés à des fins de location (autres que les autobus, les taxis et les dépanneuses) pour le transport de biens.

(2) La partie XVII.1 ou l'article 232 de la *Loi sur les municipalités*, l'article 106 de la *Loi sur les municipalités régionales*, le paragraphe 38 (1) de la *Loi sur la municipalité régionale de Haldimand-Norfolk*, l'article 48 de la *Loi sur la municipalité régionale de Hamilton-Wentworth*, le paragraphe 41 (2) de la *Loi sur la municipalité régionale de Sudbury*, l'article 36 de la *Loi sur la municipalité régionale de Waterloo* ou le paragraphe 30 (4) ou (5) de la *Loi sur la municipalité régionale de York* ne confère à aucune municipalité, y compris une municipalité régionale, le pouvoir de réglementer ou de régir les véhicules automobiles utilisés à des fins de location (autres que les autobus, les taxis et les dépanneuses) pour le transport de biens.

2. Le présent règlement entre en vigueur le 2 janvier 1998.

AL LEACH
Ministre des Affaires municipales et du Logement

Fait le 13 novembre 1997.

ONTARIO REGULATION 410/97
made under the
COUNTY OF SIMCOE ACT, 1993

Made: November 12, 1997
Filed: November 19, 1997

**1997 RATES OF TAXATION FOR
GENERAL PURPOSES**

1. This regulation applies with respect to rates of taxation for general purposes for the year 1997.

2. The council of a local municipality specified in the Schedule shall levy the rates of taxation for general purposes that are determined in accordance with this Regulation on the real property and business assessment according to the last returned assessment roll in the merged areas of each local municipality.

3. (1) The rates of taxation that would be levied but for this regulation shall be increased or decreased by the number of mills specified in the Schedule for each merged area in each local municipality specified in the Schedule.

(2) The amounts calculated using the rates of taxation determined under subsection (1) for each merged area shall be included in the sums adopted by each local municipality for general purposes in accordance with section 162 of the *Municipal Act*.

Schedule

1. LOCAL MUNICIPALITY: Town of Midland

| MERGED AREA | RESIDENTIAL MILL RATE ADJUSTMENTS | COMMERCIAL MILL RATE ADJUSTMENTS |
|-------------------------|---|--|
| Former Town of Midland | +5.468 | +6.433 |
| Former Township of Tiny | - 68.633 | - 80.747 |

2. LOCAL MUNICIPALITY: Township of Severn

| MERGED AREA | RESIDENTIAL MILL RATE ADJUSTMENTS | COMMERCIAL MILL RATE ADJUSTMENTS |
|-------------------------------|---|--|
| Former Village of Coldwater | +3.345 | +3.934 |
| Former Township of Matchedash | - 31.736 | - 37.337 |
| Former Township of Medonte | - 2.996 | - 3.525 |
| Former Township of Orillia | +2.397 | +2.819 |
| Former Township of Tay | - 0.418 | - 0.492 |

3. LOCAL MUNICIPALITY: Town of Bradford West Gwillimbury

| MERGED AREA | RESIDENTIAL MILL RATE ADJUSTMENTS | COMMERCIAL MILL RATE ADJUSTMENTS |
|-------------------------------------|---|--|
| Former Town of Bradford | +2.783 | +3.274 |
| Former Township of West Gwillimbury | - 29.287 | - 34.455 |
| Former Township of Tecumseth | - 99.794 | - 117.405 |

4. LOCAL MUNICIPALITY: Town of Penetanguishene

| MERGED AREA | RESIDENTIAL MILL RATE ADJUSTMENTS | COMMERCIAL MILL RATE ADJUSTMENTS |
|--------------------------------|---|--|
| Former Town of Penetanguishene | +10.009 | +12.775 |
| Former Township of Tiny | - 268.511 | - 315.895 |

AL LEACH
Minister of Municipal Affairs and Housing

Dated on November 12, 1997.

49/97

ONTARIO REGULATION 411/97
made under the
FRENCH LANGUAGE SERVICES ACT

Made: November 19, 1997
Filed: November 19, 1997

Amending O. Reg. 671/92
(Exemptions)

Note: Ontario Regulation 671/92 has not previously been amended.

1. Section 2 of Ontario Regulation 671/92 is revoked.

49/97

ONTARIO REGULATION 412/97
made under the
PLANNING ACT

Made: November 18, 1997
Filed: November 20, 1997

Amending O. Reg. 25/86
(Zoning Areas—Territorial District of Kenora,
Part of the Sioux Lookout Planning Area)

Note: Since January 1, 1997, Ontario Regulation 25/86 has been amended by Ontario Regulations 12/97, 143/97, 144/97, 218/97 and 285/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Ontario Regulation 25/86 is amended by adding the following section:

126. (1) Despite section 16, no building or structure shall be erected other than a boat-house, steam-bath, dock or wharf within 9.95 metres of the shoreline of a lake on the lands described in subsection (3).

(2) Despite paragraph 4 of subsection 28 (1), the minimum front yard setback requirement for uses, buildings and structures is 9.95 metres on the lands described in subsection (3).

(3) Subsections (1) and (2) apply to two parcels of land in the geographic Township of Pickerel in the District of Kenora, being Parcel 18621 being part of Lot 3, Fifth Concession, Township of Pickerel, District of Kenora, being all of the parcel and Parcel 35373, being location S.N. 76, Township of Pickerel, District of Kenora, being all of the parcel, and more particularly described as Part 1, Reference Plan 23R-5772 deposited in the Land Registry Office for the Land Titles Division of Kenora (No. 23).

THERISA SINGH
Acting Manager
Provincial Planning Services Branch
Ministry of Municipal Affairs and Housing

Dated on November 18, 1997.

49/97

RÈGLEMENT DE L'ONTARIO 411/97
pris en application de la
LOI SUR LES SERVICES EN FRANÇAIS

pris le 19 novembre 1997
déposé le 19 novembre 1997

modifiant le Règl. de l'Ont. 671/92
(Exemptions)

Remarque : Le Règlement de l'Ontario 671/92 n'a pas été modifié antérieurement.

1. L'article 2 du Règlement de l'Ontario 671/92 est abrogé.

ONTARIO REGULATION 413/97
made under the
LOAN AND TRUST CORPORATIONS ACT

Made: November 19, 1997
Filed: November 20, 1997

Amending Reg. 733 of R.R.O. 1990
(General)

Note: Regulation 733 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Sections 1 to 5 of Regulation 733 of the Revised Regulations of Ontario, 1990 are revoked and the following substituted:

PART 1
GENERAL

1. In this Regulation,

"co-operative credit society" means a body corporate organized and operated on co-operative principles, one of whose principal purposes is to provide financial services to its members;

"entity" means a body corporate, trust, partnership, fund, unincorporated association or organization, Her Majesty in right of Canada or of a province of Canada, an agency of Her Majesty in either of such rights and the government of a foreign country or any political subdivision thereof and any agency thereof;

"financial institution" means,

- (a) a corporation incorporated by or under the laws of Ontario, of Canada or of any other province or territory of Canada,
- (b) a bank,
- (c) an insurance company,
- (d) a co-operative credit society incorporated and regulated by or under the laws of Canada or of any province or territory of Canada, including a credit union or caisse populaire,
- (e) a securities dealer, or
- (f) a foreign institution;

"foreign institution" means an entity that is,

- (a) engaged in the business of banking, the trust, loan or insurance business, the business of a co-operative credit society or the business of dealing in securities or is otherwise engaged primarily in the business of providing financial services, and
- (b) incorporated or formed otherwise than by or under the laws of Canada or a province or territory of Canada;

"insurance company" means an insurance company incorporated by or under the laws of Ontario, of Canada or of any other province or territory of Canada;

"real estate corporation" means a body corporate that is primarily engaged in holding, managing or otherwise dealing with real estate or shares of a body corporate or ownership interests in an unincorporated entity that is also primarily engaged in holding, managing or otherwise dealing with real estate;

"real estate holding vehicle" means a limited partnership or a trust that is primarily engaged in holding, managing or otherwise dealing with real estate or shares of a body corporate or ownership interests in an unincorporated entity that is also primarily engaged in holding, managing or otherwise dealing with real estate;

"securities dealer" means an entity that is incorporated by or under the laws of Canada or a province or territory of Canada that is primarily engaged in dealing in securities, including portfolio management and investment counselling;

"specialized financing corporation" means a body corporate that is primarily engaged in providing specialized business management, in making investments or in providing financing or advisory services.

2. (1) Subsection 10 (3) of the Regulation is amended by striking out "forty-five days and not more than sixty" in the second line and substituting "21".

(2) Subsection 10 (4) of the Regulation is amended by striking out "forty-five days and not more than sixty" in the second line and substituting "21".

3. Sections 21 to 29 of the Regulation are revoked and the following substituted:

PROVINCIAL CORPORATIONS

21. (1) Sections 21 to 26 apply to securities, property and other assets held by a provincial corporation as collateral for a loan or as an acquisition for its own account.

(2) Despite subsection (1), if a provincial corporation enters into a securities lending arrangement with a financial institution or securities dealer, sections 21 to 26 apply in respect of any securities received by the provincial corporation as a result of the arrangement but do not apply in respect of any securities lent by the provincial corporation under the arrangement.

CUSTODY

22. (1) Documents evidencing ownership of securities, property or other assets that are held by a provincial corporation as collateral for a loan or for its own account shall be placed in the possession of a corporation, a bank or the Bank of Canada.

(2) Despite subsection (1), documents evidencing ownership of assets not retained in Canada that are acquired by a provincial corporation for its own account may be placed in the possession of an institution in a jurisdiction outside Canada that is,

- (a) recognized by the laws of the jurisdiction as a bank or an equivalent to a bank; and
- (b) empowered by the laws of the jurisdiction to act as a custodian, and that is regulated by a system similar to that of Ontario.

(3) There shall be an agreement in writing between a provincial corporation and a custodian mentioned in subsection (1) or (2) governing the custody of securities, property and other assets that sets out the obligations of the custodian and the cost, if any, of the services to be provided to the provincial corporation.

(4) In this section,

"assets not retained in Canada" means,

- (a) bonds, debentures and other forms of indebtedness of a body corporate that is incorporated outside Canada,
- (b) shares of a body corporate that is incorporated outside Canada, unless the shares are listed on a Canadian stock exchange,
- (c) real estate located outside Canada,
- (d) loans that are secured by real estate or leaseholds outside Canada, and
- (e) mutual fund shares or units that are traded only by dealers who are not registered with a securities commission in Canada.

SAFEKEEPING

23. A provincial corporation holding securities or property as collateral for a loan shall obtain from the borrower an assignment of the borrower's rights in the securities or property and shall obtain,

- (a) in the case of securities, a power of attorney and proof of the assignability of the securities; and
- (b) in the case of property, proof of the ownership rights of the borrower.

24. A provincial corporation holding securities or government debt instruments for its own account shall, within 15 days after settlement, forward the securities for registration in the name of the provincial corporation or its nominee.

25. (1) Canadian money market instruments that are purchased by a provincial corporation for its own account may be held in bearer form or in registered form accompanied by a power of attorney appointing the provincial corporation.

(2) Securities and government debt instruments other than Canadian money market instruments that the provincial corporation intends to dispose of within 90 days after acquisition may be held by the provincial corporation in bearer form or in registered form accompanied by a power of attorney appointing the provincial corporation.

(3) Section 23 or 24, as the case may be, applies to a provincial corporation that does not dispose of securities or government debt instruments described in subsection (2) within 90 days after acquisition.

(4) Despite section 24, if a provincial corporation acquires securities or government debt instruments,

- (a) that are issued in bearer form only, the provincial corporation may hold the securities or government debt instruments in bearer form; and
- (b) that are Canadian money market instruments in street form, the provincial corporation may hold the securities or government debt instruments in street form.

(5) In this section, "money market instrument" means a publicly traded debt instrument issued by a body corporate or a government, maturing within three years after its date of issue, that is,

- (a) purchased by a provincial corporation for its own account; or
- (b) held by a provincial corporation as collateral for a loan payable within up to one year from the day the loan was made.

26. A provincial corporation must take reasonable and prudent action to ensure that ownership rights of, or security interest in securities, property and other assets that are registered in the name of the provincial corporation or its nominee, or held by the provincial corporation, are protected under provincial law.

REGISTERED CORPORATIONS

27. (1) Sections 27 to 29.2 apply to securities, property and other assets held by a registered corporation as trust assets under administration.

(2) Despite subsection (1), if a registered corporation enters into a securities lending arrangement with a financial institution or securities dealer for assets held by the registered corporation as trust assets under administration, sections 27 to 29.2 apply in respect of any securities received by the registered corporation as a result of the arrangement but do not apply in respect of any securities lent by the registered corporation under the arrangement.

CUSTODY

28. (1) Documents evidencing ownership of securities, property or other assets that are held by a registered corporation as trust assets under administration shall be placed in the possession of a corporation, a bank or the Bank of Canada.

(2) Subsection (1) does not apply if a court order or an instrument that creates a fiduciary duty contains a direction respecting securities, property or trust assets that is inconsistent with subsection (1).

(3) There shall be an agreement in writing between a registered corporation and a custodian holding documents in accordance with subsection (1) or (2) governing the custody of securities, property and other assets held as trust assets that sets out the obligations of the custodian and the costs, if any, of the services to be provided to the registered corporation.

SAFEKEEPING

29. (1) Trust assets shall be registered and held by a registered corporation or its nominee in trust for the beneficial owner or in the name of the beneficial owner.

(2) Subsection (1) does not apply where a court order or an instrument that creates a fiduciary duty contains a direction respecting securities, property or other assets that is inconsistent with the requirements of that subsection.

29.1 (1) Canadian money market instruments that are held by a registered corporation as trust assets may be held in bearer form or in registered form accompanied by a power of attorney appointing the registered corporation.

(2) Securities and government debt instruments other than Canadian money market instruments held by a registered corporation as trust assets that the registered corporation intends to dispose of within 90 days after acquisition may be held by the registered corporation in bearer form or in registered form accompanied by a power of attorney appointing the registered corporation.

(3) Section 29 applies to a registered corporation that does not dispose of securities or government debt instruments described in subsection (2) within 90 days after acquisition.

(4) Despite section 29, if a registered corporation acquires securities or government debt instruments held by the registered corporation as trust assets,

- (a) that are issued in bearer form only, the registered corporation may hold the securities or government debt instruments in bearer form; and
- (b) that are Canadian money market instruments in street form, the registered corporation may hold the securities or government debt instruments in street form.

(5) In this section "money market instrument" means a publicly traded debt instrument issued by a body corporate or a government, maturing within three years after its date of issue and purchased by a registered corporation as a trust asset.

29.2 Where a registered corporation holds securities, property or other assets as trust assets and the securities, property or other assets are registered in the name of the registered corporation or its nominee, the registered corporation must take reasonable and prudent action to ensure that the ownership rights of or security interest in the securities, property or other assets are protected under provincial law.

29.3 (1) The existence of and ownership rights of a person in a security or government debt instrument held by a provincial corporation as collateral for a loan or as an acquisition for its own account or held by a registered corporation as trust assets under administration may be established by the delivery to the provincial corporation or registered corporation of,

- (a) a certificate respecting the issuance and registration of the security or government debt instrument; or
- (b) a statement of account for the security or government debt instrument given by a recognized securities depository in Canada that is authorized by law to operate a book based system or a comparable institution in a foreign jurisdiction that is authorized by law to operate a transnational book based system.

(2) In this section, "book based system" means a system for the central handling of securities within which all securities in a class or series of any issuer that are deposited into the system are treated as fungible and may be transferred or pledged by a bookkeeping entry without the actual delivery of the securities.

4. **Clauses 34 (1) (e) and (f) of the Regulation are revoked and the following substituted:**

- (e) revenue from loans to individuals;
- (f) revenue from loans to persons other than individuals;

5. **(1) Clauses 37 (1) (f) and (g) of the Regulation are revoked and the following substituted:**

- (f) loans to individuals;
- (g) loans to persons other than individuals;

(2) **Clause 37 (2) (g) of the Regulation is revoked and the following substituted:**

- (g) subordinated indebtedness;

6. **Section 38 of the Regulation is amended by adding the following paragraph:**

- 3.1 Contractual obligations in respect of guarantees, letters of credit, endorsements, acceptances or other similar obligations not recorded on the balance sheet.

7. Subsection 39 (2) of the Regulation is revoked.

8. Section 40 of the Regulation is revoked and the following substituted:

40. (1) For the purposes of the definition of "capital base" in the Act, the capital base of a provincial corporation shall be calculated by adding the book value of,

- (a) all or any portion of the fully paid-in common and preference shares;
- (b) contributed surplus;
- (c) subordinated indebtedness;
- (d) retained earnings or deficit; and
- (e) net deferred income taxes payable,

and subtracting from that amount,

- (f) the book value of,
 - (i) that portion of the shares and subordinated indebtedness of subsidiary loan or trust corporations that are registered under the Act or similar legislation, that the subsidiary includes in calculating its capital base,
 - (ii) that portion of the shares and subordinated indebtedness of a subsidiary bank, insurance company or foreign institution that the subsidiary includes in calculating its capital base,
 - (iii) any substantial investment in a body corporate that is permitted under clause 140 (2) (b) or section 142,
 - (iv) goodwill and other intangible assets,
 - (v) deferred charges, including start-up costs, operating losses and other similar charges,
 - (vi) leasehold improvements less the accumulated amortization on the leasehold,
 - (vii) investments, or any part of an investment, that are not permitted by or are in excess of the limits imposed by the Act or this Regulation,
 - (viii) investments in the shares of, or loans made to, a securities dealer in which the corporation owns more than 10 per cent of the voting shares,
 - (ix) unrealized losses on foreign currency translations, and
 - (x) net deferred income taxes recoverable;
- (g) the amount, if any, by which the aggregate book value of the investments of the provincial corporation, except securities issued or guaranteed by the Government of Canada, the government of a province, territory or municipality or an agency thereof, exceeds the aggregate market value of the investments determined in accordance with section 42;
- (h) the amount, if any, by which the aggregate book value of real estate, other than office premises, owned by the provincial

corporation exceeds its aggregate market value as determined by an appraisal made within the preceding two years;

- (i) the amount of any shares and subordinated indebtedness issued by the provincial corporation that represents either directly or indirectly a back to back placement with one or more financial institutions;
 - (j) the amount which is the percentage of the outstanding amount of any subordinated indebtedness with respect to an issue described in subsection 89 (3), as set out in the Table to this section;
 - (k) the amount of any subordinated indebtedness issued by a provincial corporation which is owned by a subsidiary of the corporation, less any amount which has been deducted with respect to that subordinated indebtedness under clause (j); and
 - (l) if the corporation has a subsidiary that is not a financial institution or a subsidiary of a financial institution other than the corporation,
 - (i) the amount determined under subsection (2), and
 - (ii) the amount determined under subsection (3).
- (2) The amount in subclause (1) (l) (i) is determined by,
- (a) assuming, for the purposes of the clause, that the corporation referred to in subsection (1) is the subsidiary and calculating the amounts described by clauses (1) (f), (g) and (h);
 - (b) adding the amounts determined in clause (a); and
 - (c) multiplying the amount determined in clause (b) by the percentage of equity in the subsidiary that the corporation holds.
- (3) The amount in subclause (1) (l) (ii) is the amount obtained by dividing the total of all amounts borrowed by the subsidiary, other than from the corporation or a subsidiary of the corporation, by the authorized borrowing multiple of the corporation determined under section 157 of the Act.

TABLE
(For clause 40 (1) (j))

| Time Period to Maturity or Date on which Holder has Contractual Retraction Right | Percentage of Outstanding Amount |
|--|----------------------------------|
| 5 years or more | 0% |
| 4 years or more and less than 5 years | 20 |
| 3 years or more and less than 4 years | 40 |
| 2 years or more and less than 3 years | 60 |
| 1 year or more and less than 2 years | 80 |
| less than 1 year | 100 |

9. Subsection 42 (1) of the Regulation is amended by adding at the end "and, in this section, "investment" does not include a loan, whether secured or unsecured, or any investment in real estate or in a subsidiary".

10. (1) Clause 47 (2) (a) of the Regulation is revoked.

(2) Clause 47 (2) (b) of the Regulation is amended by striking out "after the recording referred to in clause (a)" in the first line.

11. Section 81 of the Regulation is amended by striking out "registered" in the first line and substituting "provincial" and by

striking out "notes" in the third line and substituting "indebtedness".

12. Section 82 of the Regulation is amended by striking out "registered" wherever it occurs and substituting in each case "provincial".

13. Section 83 of the Regulation is revoked.

14. Sections 84, 84.1 and 84.2 of the Regulation are amended by striking out "registered" wherever it occurs and substituting in each case "provincial".

15. Section 85 of the Regulation is revoked and the following substituted:

85. For the purposes of section 160 of the Act,

- (a) a provincial corporation shall maintain its liquid assets unencumbered in any of the forms described in section 86; and
- (b) a provincial corporation shall maintain liquid assets in the minimum amount of 20 per cent of the total amount of deposits and obligations of the provincial corporation that are payable in 100 days or less.

16. Sections 86 to 88 of the Regulation are revoked and the following substituted:

86. The total amount of liquid assets maintained by a provincial corporation shall be the amount which is the aggregate of the following amounts for the corporation:

- 1. The amount by which the aggregate of cash on hand and demand deposits in banks, registered corporations and, if approved by the Superintendent, other depositories, exceeds the aggregate of,
 - i. overdrafts by the provincial corporation as shown in the accounting records, and
 - ii. debt obligations owed to banks, registered corporations and other lending institutions excluding the Bank of Canada that are,
 - A. repayable or callable at the option of the lender on demand or have a term to maturity when issued of seven days or less, and
 - B. borrowed to enable the provincial corporation to meet its short term requirements for liquid funds.
- 2. Treasury bills of Canada or a province, at book value.
- 3. Banker's acceptances with a remaining term to maturity of one year or less, at book value.
- 4. Term deposits, bearer deposit notes and similar instruments issued by banks, registered corporations and, if approved by the Superintendent, other depositories, that in each case either are callable on demand or mature within 100 days, at book value.
- 5. Bonds, debentures or other evidence of indebtedness that are issued or guaranteed by, or in respect of which the debt service is guaranteed by the Government of Canada, or the government of a province or a municipality, at market value.
- 6. Demand loans that are fully secured by assets of the classes specified in paragraphs 2 to 5 made to brokers, investment dealers and securities dealers registered in Canada, at book value.

7. Accrued interest due and receivable on the assets referred to in paragraphs 1 to 6.

87. The total amount of deposits and obligations of the provincial corporation that are payable in 100 days or less shall be the amount which is the aggregate of the following amounts for the corporation:

- 1. Demand deposits and savings accounts;
- 2. Deposits, debentures, certificates and similar instruments issued for a specified term but callable on demand at the holder's option;
- 3. All other deposits, debentures, certificates and similar instruments coming due in 100 days or less, or on notice of 100 days or less;
- 4. Borrowings, other than those included in paragraphs 1 to 3, from banks and other lending institutions coming due in 100 days or less or repayable at the option of the lender within 100 days, other than the indebtedness referred to in subparagraphs (i) and (ii) of paragraph 1 of section 86; and
- 5. Accrued interest on all liabilities due and payable within 100 days or less.

17. Sections 89 and 90 of the Regulation are revoked and the following substituted:

PART XIII SUBORDINATED INDEBTEDNESS

89. (1) For the purposes of the Act, "subordinated indebtedness" means an instrument evidencing an indebtedness of a provincial corporation that by its terms provides that the indebtedness will, in the event of the insolvency or winding up of the corporation, be subordinate in right of payment to all deposit liabilities of the corporation and all other liabilities of the corporation except those that, by their terms, rank equally with or are subordinate to the indebtedness.

(2) All subordinated indebtedness issued by a provincial corporation shall provide,

- (a) that the redemption or payment of the subordinated indebtedness at maturity, upon default or otherwise, will be suspended if there are reasonable grounds to believe that,
 - (i) the corporation is, or after the redemption or payment would be, unable to pay its liabilities as they become due,
 - (ii) after the redemption or payment, the realizable value of the corporation's assets would be less than the aggregate of its liabilities, or
 - (iii) the redemption or payment would cause the corporation to be in contravention of the Act or the regulations;
 - (b) that, except in the event of the insolvency, bankruptcy or winding up of the corporation, the subordinated indebtedness will not be redeemed, paid or otherwise compromised by the corporation except on not less than 30 days written notice to the Superintendent by the corporation, a holder of the subordinated indebtedness or a trustee for the holders of the subordinated indebtedness; and
 - (c) for a fixed maturity date.
- (3) Clause (2) (a) does not apply to an issue of subordinated indebtedness if,
- (a) not more than 10 per cent of the principal amount of the subordinated indebtedness is issued to and beneficially owned at the

time of issue by one or more affiliates of the corporation, other than a securities dealer affiliate which acquires the subordinated indebtedness with a view to selling the subordinated indebtedness;

(b) the subordinated indebtedness does not contain a special restrictive covenant or default clause which would allow the holder of the subordinated indebtedness in the event of the breach of the covenant or clause to require the corporation to accelerate the repayment of the subordinated indebtedness in circumstances other than the insolvency, bankruptcy or winding up of the corporation; and

(c) the provincial corporation has delivered written notice to the Superintendent that the subordinated indebtedness is to be issued subject to this subsection.

(4) On application to the Superintendent by the provincial corporation, a holder of the subordinated indebtedness or a trustee for the holders of the subordinated indebtedness, the period of the notice referred to in clause (2) (b) may be reduced by the Superintendent.

90. (1) Every instrument evidencing subordinated indebtedness issued by a provincial corporation shall include,

- (a) the terms of its subordination;
- (b) all restrictions applicable on redemption or payment of the subordinated indebtedness; and
- (c) a disclosure that the subordinated indebtedness is not a deposit of the issuing corporation and is not insured by the Canada Deposit Insurance Corporation or, if appropriate, any similar public agency.

(2) No person shall, in any prospectus, advertisement, correspondence or literature relating to any subordinated indebtedness issued or to be issued by a provincial corporation, refer to the subordinated indebtedness otherwise than as subordinated indebtedness.

18. Subsection 96 (4) of the Regulation is revoked.

19. (1) Subsection 101 (3) of the Regulation is revoked and the following substituted:

- (3) The total investment of a Fund in,
 - (a) guaranteed investment certificates of any trust corporation;
 - (b) debentures of any loan corporation;
 - (c) deposits in a bank or receipts, deposit notes, certificates of deposit, acceptances and other similar instruments issued or endorsed by a bank; or
 - (d) bonds of, or guaranteed by, any municipal corporation,

may not exceed, in each case, 10 per cent of the book value of the Fund.

(2) Subsection 101 (7) of the Regulation is revoked and the following substituted:

(7) The liquidity of a Fund shall be maintained in adequate amounts and appropriate forms.

20. The definition of "remuneration rates" in section 107 of the Regulation is revoked.

21. Sections 110 and 111 of the Regulation are revoked.

22. Part XVI of the Regulation is revoked.

23. (1) The heading to Part XVII of the Regulation is revoked and the following substituted:

PART XVII LOANS TO DIRECTORS, OFFICERS AND EMPLOYEES

(2) Part XVII of the Regulation is amended by adding the following sections:

112. For the purposes of subclause 142 (1) (a) (i) of the Act, all mortgage loans are prohibited, except a mortgage loan secured upon improved real estate in Canada under which the amount paid for or advanced on the mortgage, together with the amount of indebtedness under any mortgage on the real estate ranking equally with or prior to the mortgage does not exceed the lending value of the real estate to which the mortgage relates unless,

- (a) the mortgage loan is approved or insured under the *National Housing Act* (Canada); or
- (b) the excess is guaranteed or insured through an agency of the Government of Canada or of a province or territory of Canada or is insured by a policy of mortgage insurance issued by an insurance company licensed or registered under the *Insurance Companies Act* (Canada) or the *Insurance Act* or similar legislation of any province or territory of Canada, provided that the insurance company is not a subsidiary of the corporation.

112.1 For the purposes of clause 142 (1) (b) of the Act, a loan is prohibited if at any time it exceeds the lesser of,

- (a) \$250,000; and
- (b) one-tenth of 1 per cent of the total assets of the corporation.

24. Section 113 of the Regulation is amended by striking out "registered" in the first and second lines and substituting "provincial".

25. Part XVIII of the Regulation is amended by adding the following section:

114.1 In this Part,

"factoring corporation" means a body corporate the activities of which are limited to acting as a factor in respect of accounts receivable, including raising money for the purpose of acting as a factor and lending money while acting as such a factor;

"financial leasing corporation" means a body corporate the activities of which are limited to the financial leasing of personal property, and to,

- (a) entering into and accepting the assignment of conditional sales agreements in respect of personal property,
- (b) administering financial lease agreements and conditional sales agreements on behalf of any person, and
- (c) raising money for the purpose of financing the activities of the financial leasing corporation and investing that money pending its use for those activities;

"information processing services" means the collection, manipulation and transmission of information that is primarily financial or economic in nature or that relates to the business of an entity referred to in subsection 115 (1) or of a real estate holding vehicle;

"information services corporation" means a body corporate, the ancillary activities of which may include the design, development,

manufacture or sale of special purpose computer hardware, but that is primarily engaged in,

- (a) providing information processing services,
- (b) providing advisory or other services in the design, development or implementation of information management systems, or
- (c) designing, developing or marketing computer software;

"investment counselling and portfolio management corporation" means a body corporate the principal activity of which consists of,

- (a) offering advice or advising on investments, or
- (b) investing or controlling, in any way that involves an element of discretionary judgment by the body corporate,
 - (i) property, deposits or securities that are not owned by the body corporate, or
 - (ii) money that is not owned by the body corporate or deposited with the body corporate in the ordinary course of business;

"mutual fund corporation" means a body corporate whose activities are limited to investing funds of the body corporate, and includes a body corporate that is an issuer of securities that entitle the holder to receive, on demand or within a specified period after demand, an amount computed by reference to the value of a proportionate interest in the whole or in a part of the net assets, including a separate fund or trust account, of the issuer of the securities;

"mutual fund distribution corporation" means a body corporate whose principal activity is acting as a selling agent of units, shares or other interests in a mutual fund and acting as a collecting agent in the collection of payments for any of those interests if,

- (a) the proceeds of the sales of any of those interests, less any sales commissions and service fees, are paid to the fund, and
- (b) the existence of a sales commission and service fee in respect of the sale of any of those interests is disclosed to the purchaser of the interest before the sale;

"prescribed subsidiary" means a body corporate prescribed under subsection 115 (1);

"real estate brokerage corporation" means a body corporate that is primarily engaged in,

- (a) acting as an agent for vendors, purchasers, mortgagors, mortgagees, lessors or lessees of real estate, and
- (b) providing consulting or appraisal services in respect of real estate;

"service corporation", in relation to a provincial corporation, means a body corporate that engages exclusively in providing services,

- (a) and provides such services to,
 - (i) the corporation,
 - (ii) an entity in which the corporation has a substantial investment,
 - (iii) a financial institution that is affiliated with the corporation, or

(iv) an entity in which a financial institution referred to in subclause (iii) has a substantial investment,

(b) and may also provide such services to,

- (i) another Canadian financial institution incorporated or formed by or under the laws of a province or territory of Canada or of Canada that has a substantial investment in the body corporate,
- (ii) an entity in which any Canadian financial institution referred to in subclause (i) has a substantial investment,
- (iii) a financial institution that is affiliated with any Canadian financial institution referred to in subclause (i), or
- (iv) an entity in which a financial institution referred to in subclause (iii) has a substantial investment;

"special purpose computer hardware" means computer equipment that is integral to the provision of financial services or of information services related to the business of financial institutions.

26. (1) Subsection 115 (1) of the Regulation is revoked and the following substituted:

(1) For the purposes of subsection 163 (1) of the Act, a provincial corporation may establish or acquire, as a subsidiary,

- (a) a financial institution;
- (b) a factoring corporation;
- (c) a financial leasing corporation;
- (d) an information services corporation;
- (e) an investment counselling and portfolio management corporation;
- (f) a mutual fund corporation;
- (g) a mutual fund distribution corporation;
- (h) a real estate brokerage corporation;
- (i) a real estate corporation;
- (j) a service corporation;
- (k) a specialized financing corporation;
- (l) a financial holding corporation that does not have a substantial investment in any entity other than in,
 - (i) a body corporate referred to in this subsection,
 - (ii) a real estate holding vehicle, or
 - (iii) any other entity in which a financial institution or specialized financing corporation controlled by the financial holding corporation has a substantial investment;
- (m) a body corporate whose activities are ancillary to the business of the corporation or of a financial institution that is its subsidiary; and
- (n) a body corporate that engages in two or more of the businesses or activities engaged in or carried on by bodies corporate referred to in any of clauses (b) to (m).

(2) Subsection 115 (2) of the Regulation is amended by striking out "registered" wherever it occurs and substituting in each case "provincial" and by striking out subclauses (b) (iv), (v), (vi) and (vii) and substituting the following:

- (iv) will notify the Superintendent forthwith of its disposition of any shares of the proposed subsidiary, and
- (v) will not permit the proposed subsidiary to amalgamate with another corporation or company without giving the Superintendent at least 15 days notice of the proposed amalgamation and obtaining the Superintendent's approval.

27. Section 116 of the Regulation is revoked.

28. Section 117 of the Regulation is revoked and the following substituted:

117. (1) Every provincial corporation that has established or acquired a specialized financing corporation as a subsidiary shall ensure that at the time the subsidiary is acquired or established and at any subsequent time,

- (a) the subsidiary does not hold shares or ownership interests in a financial institution, directly or indirectly;
- (b) the aggregate of the book value of the shares held by the provincial corporation and its prescribed subsidiaries in the subsidiary and in all specialized financing corporations and the amount of loans that the provincial corporation and its subsidiaries have made to the subsidiary and all specialized financing corporations that are outstanding does not exceed 5 per cent of the corporation's capital base;
- (c) the aggregate amount of all loans that were made to the subsidiary by all entities and that are outstanding does not exceed twice the amount of the subsidiary's shareholders' equity; and
- (d) the subsidiary has not held a substantial investment in any entity for more than 10 years.

(2) For the purposes of subsection (1),

- (a) the amount of the subsidiary's debt and shareholders' equity is the amount indicated on its balance sheet, prepared on an unconsolidated basis; and
- (b) the book value of the shares and ownership interests held by an entity is the book value indicated on the entity's balance sheet.

29. Section 122 of the Regulation is amended by striking out "registered" in the third line and substituting "provincial".

30. Section 123 of the Regulation is revoked.

31. Section 124 of the Regulation is revoked and the following substituted:

124. (1) A provincial corporation shall not enter into a financial lease agreement or a conditional sales agreement other than a financial lease agreement or conditional sales agreement,

- (a) in respect of personal property that was,
 - (i) selected by the lessee or purchaser and acquired by the corporation at the request of the lessee or purchaser, or

- (ii) previously acquired by the corporation in respect of another financial lease agreement or conditional sales agreement; and

- (b) the primary purpose of which is the extending of credit to a lessee or purchaser.

(2) A provincial corporation shall not direct its customers or potential customers to particular dealers in respect of personal property that is conditionally sold or that is to be conditionally sold under a conditional sales agreement with the corporation.

(3) A provincial corporation shall not permit its prescribed subsidiaries to do anything that the provincial corporation is prohibited from doing by subsection (1) or (2).

(4) Every financial lease agreement or conditional sales agreement entered into by a provincial corporation must include a provision assigning to the lessee or purchaser the benefit of, or setting out the responsibilities of the corporation in respect of, all warranties, guarantees or other undertakings made by a manufacturer or supplier in respect of the personal property that is the subject of the agreement.

(5) Every financial lease agreement entered into by a provincial corporation must yield,

- (a) a return to the corporation that is not less than its full investment in the property that is the subject of the agreement; and
- (b) a rate of return that is reasonable taking into account the term and the other conditions of the agreement and the rate of return sought by other lessors in respect of the financial leasing of similar property under similar conditions.

(6) For the purposes of subsection (5), the calculation of the return under a financial lease agreement must take into account,

- (a) rental charges that have been or are to be paid by the lessee under the lease agreement;
- (b) estimated tax benefits accruing to the corporation on account of the lease agreement, including tax credits and capital cost allowance claims; and
- (c) either,

(i) if the lessee or a third party who is dealing at arm's length with the corporation has, on or before the start of the lease agreement, contracted to purchase the leased property or has unconditionally guaranteed the resale value of the leased property at the date of expiration of the lease agreement, the amount of the purchase price or resale value, or

(ii) in a case other than that set out in subclause (i), the lesser of the amount of the estimated residual value of the property and 25 per cent of the cost of acquisition of the property to the corporation.

(7) A provincial corporation shall not permit its prescribed subsidiaries to enter into a financial lease agreement or conditional sales agreement which the corporation is prohibited from entering into by subsections (4) and (5).

(8) The aggregate of the estimated residual value of all leased properties held by a provincial corporation and its prescribed subsidiaries that are referred to in subclause (6) (c) (ii) may not at any time exceed 10 per cent of the aggregate of the cost of acquisition of those leased properties.

(9) This section does not apply to leases or conditional sales contracts where the provincial corporation or any of its prescribed subsidiaries is either the lessee or the conditional purchaser.

(10) In this section, "estimated residual value" means, in respect of personal property that is the subject of a financial lease agreement with a provincial corporation or its prescribed subsidiaries, the value of the property immediately after the expiration of the lease agreement, as estimated by the corporation or its subsidiary at the time the lease agreement was entered into.

32. The Regulation is amended by adding the following Part:

**PART XX.2
INVESTMENTS**

126. (1) For the purposes of section 164 of the Act,

"commercial loan" means,

(a) any loan made or acquired other than,

(i) a loan to an individual in an amount of \$250,000 or less,

(ii) a loan to,

(A) the Government of Canada, the government of a province or territory of Canada, a municipality in Canada or an agency of any of them,

(B) the government of a foreign country that is a member of the Organization for Economic Cooperation and Development or any political subdivision or agency thereof, or

(C) the Asian Development Bank, the Inter-American Development Bank, the International Bank for Reconstruction and Development or the International Finance Corporation,

(iii) a loan that is guaranteed by, or fully secured by securities issued by, a government, a municipality or an agency referred to in subclause (ii),

(iv) a loan that is secured by a mortgage on real estate if the mortgage is,

(A) on residential real estate and the amount of the loan, together with the amount then outstanding of any mortgage having an equal or prior claim against the real estate, does not exceed the lending value of the real estate at the time the loan is made or acquired, or

(B) on real estate other than residential real estate and,

1. the amount of the loan, together with the amount then outstanding of any mortgage having an equal or prior claim against the real estate, does not exceed the lending value of the real estate at the time the loan is made or acquired, and

2. at the time the loan is made or acquired the real estate provides an annual income sufficient to pay all annual expenses related to the real estate, including the payments owing under the mortgage and the mortgages having an equal or prior claim against the real estate,

(v) a loan that is secured by a mortgage on real estate, where

(A) the mortgage is on residential real estate and

1. the amount of the loan, together with the amount then outstanding of any mortgage having an equal or prior claim against the real estate, exceeds the lending value of the real estate at the time the loan is made or acquired, and

2. repayment of the amount of the loan that exceeds the lending value of the real estate is guaranteed or insured by a government agency or private insurer other than a subsidiary of the corporation that is licensed or registered under the laws of Canada or a province of Canada,

(B) the mortgage is on real estate other than residential real estate and

1. the amount of the loan, together with the amount then outstanding of any mortgage having an equal or prior claim against the real estate, exceeds the lending value of the real estate at the time the loan is made or acquired,

2. repayment of the amount of the loan that exceeds the lending value of the real estate is guaranteed or insured by a government agency or private insurer other than a subsidiary of the corporation that is licensed or registered under the laws of Canada or a province of Canada, and

3. at the time the loan is made or acquired, the real estate provides an annual income sufficient to pay all annual expenses related to the real estate, including the payments owing under the mortgage and the mortgages having an equal or prior claim against the real estate, or

(C) the loan is one referred to in clause 134 (2) (d), or

(vi) a loan that,

(A) consists of a deposit made by the corporation with another financial institution,

(B) is fully secured by a deposit with any financial institution, including the corporation,

(C) is fully secured by debt obligations guaranteed by any financial institution other than the corporation or a subsidiary of the corporation, or

(D) is fully secured by a guarantee of a financial institution other than the corporation or a subsidiary of the corporation,

(b) an investment in debt obligations other than;

(i) debt obligations that are,

(A) guaranteed by any financial institution other than the corporation or a subsidiary of the corporation,

(B) fully secured by deposits with any financial institution, including the corporation, or

(C) fully secured by debt obligations that are guaranteed by any financial institution other than the corporation or a subsidiary of the corporation,

(ii) debt obligations issued by,

- (A) the Government of Canada, the government of a province or territory of Canada, a municipality in Canada or an agency of any of them,
- (B) the government of a foreign country that is a member of the Organization for Economic Cooperation and Development or any political subdivision or agency thereof, or
- (C) the Asian Development Bank, the Inter-American Development Bank, the International Bank for Reconstruction and Development or the International Finance Corporation,
- (iii) debt obligations that are guaranteed or fully secured by securities issued by a government, a municipality or an agency referred to in subclause (ii),
- (iv) debt obligations that are widely distributed, or
- (v) debt obligations of an entity controlled by the corporation, and
- (c) an investment in shares of a body corporate or ownership interests in an unincorporated entity, other than,
 - (i) shares or ownership interests that are widely distributed,
 - (ii) shares or ownership interests of an entity controlled by the corporation, or
 - (iii) participating shares.

(2) If a provincial corporation and its prescribed subsidiaries make or acquire loans having an aggregate amount of more than \$250,000 to an individual to avoid the application of subclause (1) (a) (i) to the loans, the loans shall be deemed to be commercial loans.

127. In this Part,

"loan" includes an acceptance, endorsement or other guarantee, a deposit, a letter of credit, a financial lease, a conditional sales contract, a repurchase agreement and any other similar arrangement for obtaining funds or credit but does not include investments in securities;

"participating share" means a share of a body corporate that carries the right to participate in the earnings of the body corporate to an unlimited degree and to participate in a distribution of the remaining property of the body corporate on dissolution;

"residential real estate" means real estate consisting of buildings, at least one-half of the floor space of which is used or is intended to be used as one or more private dwellings;

"widely distributed" means,

- (a) in respect of debt obligations the distribution of which was exempted from the requirements to file a prospectus under the laws of Ontario, Canada, another province of Canada or a jurisdiction outside Canada,
- (i) at least 90 per cent of the maximum authorized principal of the debt obligations is held by one or more persons other than the provincial corporation and its prescribed subsidiaries, and,
- (A) the debt obligations were issued to at least 25 persons other than the corporation and its subsidiaries within

six months after the day on which the first of the debt obligations was issued, or

- (B) if the debt obligations are issued on a continuous basis, there are on average at least 25 holders other than the corporation and its subsidiaries, or
- (ii) at the time of their initial distribution, the debt obligations met at least three of the following criteria:
 1. Their initial term was less than one year.
 2. They were rated by a rating agency.
 3. They were distributed through a person authorized to trade in securities.
 4. They were distributed in accordance with an offering circular or memorandum or a similar document relating to the distribution of securities,
- (b) in respect of any securities not referred to in clause (a),
 - (i) they are listed and posted for trading on a recognized stock exchange, or
 - (ii) a prospectus relating to the issuance of the securities was filed under the laws of Ontario, Canada, another province of Canada or a jurisdiction outside Canada.

PORTFOLIO LIMITS—COMMERCIAL LOANS

128. (1) A provincial corporation with a capital base of \$15,000,000 or less shall not make or acquire a commercial loan, or acquire control of a body corporate of a type referred to in subsection 115 (1) that holds commercial loans, if the aggregate value of all commercial loans held by the corporation and its prescribed subsidiaries exceeds, or the acquisition or making of the commercial loan or the acquisition of control of the body corporate would cause the aggregate value of all commercial loans held by the corporation and its prescribed subsidiaries to exceed, 5 per cent of the consolidated assets of the corporation.

(2) A provincial corporation shall not permit its prescribed subsidiaries to do anything that the corporation is prohibited from doing by subsection (1).

129. (1) A provincial corporation with a capital base of more than \$15,000,000 may make or acquire commercial loans, or acquire control of a body corporate of a type referred to in subsection 115 (1) that holds commercial loans, if the aggregate value of all commercial loans held by the corporation and its prescribed subsidiaries would thereby exceed 5 per cent of the consolidated assets of the corporation only with the prior written approval of the Superintendent and in accordance with such conditions as the Superintendent may specify.

(2) A provincial corporation shall not permit its prescribed subsidiaries to do anything that the corporation is prohibited from doing by subsection (1).

130. For the purposes of sections 128 and 129, the consolidated assets of a provincial corporation shall be computed in accordance with generally accepted accounting principles.

PORTFOLIO LIMITS—REAL ESTATE

131. (1) A provincial corporation shall not acquire an interest in real estate, or make an improvement to any real estate in which the corporation or any of its prescribed subsidiaries has an interest, if the aggregate value of all interests of the corporation in real estate exceeds, or the acquisition of the interest or the making of the improvement

would cause that aggregate value to exceed, 70 per cent of the capital base of the corporation.

(2) A provincial corporation shall not permit its prescribed subsidiaries to do anything that the provincial corporation is prohibited from doing by subsection (1).

PORTFOLIO LIMITS—EQUITIES

132. (1) A provincial corporation shall not,

(a) acquire any participating shares of any body corporate or any ownership interests in any unincorporated entity, other than those of a body corporate referred to in subsection 115 (1) or a real estate holding vehicle, in which the corporation has, or by virtue of the acquisition would have, a substantial investment; or

(b) acquire control of a body corporate that holds shares or ownership interests referred to in clause (a),

if the aggregate value of all participating shares, excluding participating shares of bodies corporate referred to in subsection 115 (1) in which the corporation has a substantial investment, and all ownership interests in unincorporated entities, excluding ownership interests in real estate holding vehicles in which the corporation has a substantial investment, beneficially owned by the corporation and its prescribed subsidiaries exceeds, or the purchase or acquisition would cause that aggregate value to exceed, 70 per cent of the capital base of the corporation.

(2) A provincial corporation shall not permit its prescribed subsidiaries to do anything that the provincial corporation is prohibited from doing by subsection (1).

(3) For the purposes of subsection (2), a prescribed subsidiary of a provincial corporation does not include,

- (a) an insurance company;
- (b) a securities dealer; or
- (c) a subsidiary of an insurance company or a securities dealer.

AGGREGATE LIMIT—REAL ESTATE AND EQUITIES

133. (1) A provincial corporation shall not,

- (a) acquire,
 - (i) participating shares of a body corporate, other than those of a body corporate referred to in subsection 115 (1) in which the corporation has, or by virtue of the acquisition would have, a substantial investment,
 - (ii) ownership interests in an unincorporated entity, or
 - (iii) interests in real estate; or
- (b) make an improvement to real estate in which the corporation or any of its prescribed subsidiaries has an interest,

if the aggregate value of all participating shares and ownership interests referred to in subclauses (a) (i) and (ii) that are beneficially owned by the corporation and its prescribed subsidiaries and all interests of the corporation in real estate referred to in subclause (a) (iii) exceeds, or the acquisition or the making of the improvement would cause that aggregate value to exceed, the capital base of the corporation.

(2) A provincial corporation shall not permit its prescribed subsidiaries to do anything that the provincial corporation is prohibited from doing by subsection (1).

(3) For the purposes of subsection (2), a prescribed subsidiary of a provincial corporation does not include,

- (a) an insurance company;
- (b) a securities dealer; or
- (c) a subsidiary of an insurance company or a securities dealer.

RESTRICTION ON RESIDENTIAL MORTGAGES

134. (1) A provincial corporation shall not make a loan in Canada on the security of residential real estate in Canada for the purpose of purchasing, renovating or improving that real estate, or refinance such a loan, if the amount of the loan, together with the amount then outstanding of any mortgage having an equal or prior claim against the real estate would exceed the lending value of the real estate at the time of the loan.

(2) Subsection (1) does not apply in respect of

- (a) a loan made or guaranteed under the *National Housing Act* (Canada) or any other Act of Parliament by or pursuant to which a different limit on the value of real estate on the security of which the corporation may make a loan is established;
- (b) a loan if repayment of the amount of the loan that exceeds the maximum amount set out in subsection (1) is guaranteed or insured by a government agency or a private insurer other than a subsidiary of the corporation that is licensed or registered under the laws of Canada or a province of Canada;
- (c) the acquisition by the corporation from an entity of securities issued or guaranteed by the entity that are secured on any residential real estate, whether in favour of a trustee or otherwise, or the making of a loan by the corporation to the entity against the issue of such securities; or
- (d) a loan secured by a mortgage where,
 - (i) the mortgage is taken back by the corporation on real estate disposed of by the corporation, including where the disposition is by way of a realization of a security interest, and
 - (ii) the mortgage secures payment of an amount payable to the corporation for the real estate.

LOAN WORKOUTS

135. (1) Despite anything in this Part, if a provincial corporation or any of its prescribed subsidiaries has made a loan to an entity and a default has occurred under the terms of the agreement between the corporation or subsidiary and the entity with respect to the loan and any other documents governing the terms of the loan, the corporation or subsidiary may acquire,

- (a) if the entity is a body corporate, all or any of the shares of the body corporate;
- (b) if the entity is an unincorporated entity, all or any of the ownership interests in the entity;
- (c) all or any of the shares or all or any of the ownership interests in any entity that is an affiliate of the entity; or

- (d) all or any of the shares of a body corporate that is primarily engaged in holding shares of, ownership interests in or assets acquired from, the entity or any of its affiliates.

(2) A corporation or subsidiary that makes an acquisition under the authority of subsection (1) shall do all things necessary to ensure that it does not have a substantial investment in any entity referred to in subsection (1) within five years after the acquisition.

(3) Despite subsection (2), if pursuant to subsection (1) a corporation or any of its prescribed subsidiaries has acquired control of a body corporate that it would otherwise be permitted to acquire under subsection 115 (1), the corporation or subsidiary may continue to hold the investment if the approval of the Superintendent is obtained under section 163 of the Act.

REALIZATIONS

136. (1) Despite anything in this Part, if the investment or interest is acquired through the realization of a security interest held by a provincial corporation or any of its prescribed subsidiaries, the provincial corporation or subsidiary may acquire,

- (a) an investment in a body corporate;
- (b) an interest in an unincorporated entity; or
- (c) an interest in real estate.

(2) If, pursuant to the realization of a security interest held by a provincial corporation or any of its prescribed subsidiaries, the corporation acquires a substantial investment in an entity, other than an entity referred to in clauses 115 (1) (d) to (j) or a real estate holding vehicle, the corporation shall, within five years after the substantial investment was acquired, do all things necessary to ensure that the corporation no longer has a substantial investment in the entity.

(3) Despite subsection (2), if, pursuant to the realization of a security interest held by a provincial corporation or any of its prescribed subsidiaries, the corporation acquires control of a body corporate that it would otherwise be permitted to acquire under subsection 115 (1), the corporation or subsidiary may continue to hold the investment if the approval of the Superintendent is obtained under section 163 of the Act.

EXCLUSIONS FROM PORTFOLIO LIMITS

137. (1) The amount of all loans, investments and interests acquired by a provincial corporation and any of its prescribed subsidiaries as a result of a realization of a security interest or under section 135 shall not be included in calculating the value of loans, investments and interests of the corporation and its prescribed subsidiaries under sections 128 to 133,

- (a) in the case of an interest in real estate, for a period of 12 years after the interest was acquired;
- (b) in the case of a loan, investment or interest, other than an interest in real estate, for a period of five years after the loan, investment or interest was acquired.

(2) Subsection (1) does not apply to an investment or interest described in that subsection if the investment or interest is defined under sections 148 to 152 to be an interest in real estate and

- (a) the corporation or the subsidiary acquired the investment or interest as result of the realization of a security interest securing a loan that is defined under sections 148 to 152 to be an interest in real estate; or

- (b) the corporation or the subsidiary acquired the investment or interest under section 135 as a result of a default referred to in that section in respect of a loan that was defined by sections 148 to 152 to be an interest in real estate.

LIMITS ON SINGLE EXPOSURES

138. (1) The aggregate amount of all loans to, or investments in, any one person, or two or more persons that to the knowledge of the provincial corporation are related, made directly or indirectly by a provincial corporation and its prescribed subsidiaries shall not exceed the greater of,

- (a) \$500,000; and
 - (b) 1 per cent of the consolidated assets of the corporation.
- (2) Subsection (1) does not apply so as to restrict investments in,
- (a) securities issued or guaranteed by the government of Canada, including mortgages insured under the *National Housing Act* (Canada), by the government of any province of Canada or by any municipality in Canada;
 - (b) debt instruments issued or endorsed by a bank; or
 - (c) a prescribed subsidiary.

(3) For the purposes of clause (1) (b), the consolidated assets of the provincial corporation shall be computed in accordance with generally accepted accounting principles.

139. For the purposes of section 138, a person is considered to be related to,

- (a) every body corporate that the person controls and every affiliate of that body corporate;
- (b) the person's partner, if the person and the partner each have a 50 per cent interest in the partnership;
- (c) every trust or estate in which the person has a substantial beneficial interest or for which the person serves as trustee or in a similar capacity;
- (d) the spouse and every child of the person;
- (e) every relative of the person or of his or her spouse who has the same home as the person.

140. (1) A provincial corporation shall not acquire, increase or hold a substantial investment in any entity.

(2) Despite subsection (1) a corporation may acquire, increase or hold a substantial investment in,

- (a) a prescribed subsidiary;
- (b) a body corporate the business or activities of which are limited to the business engaged in or carried on by bodies corporate referred to in any of clauses 115 (1) (d) to (j); or
- (c) a real estate holding vehicle.

(3) Subsection (1) does not apply so as to restrict the acquisition, increase or holding of a substantial investment by a provincial corporation in an entity, other than an entity referred to in subsection 115 (1), by way of,

- (a) an acquisition of control of a financial institution or specialized financing corporation that has a substantial investment in the entity; or

- (b) an acquisition of shares or ownership interests in the entity by,
 - (i) a financial institution or specialized financing corporation that is controlled by the corporation, or
 - (ii) an entity controlled by a financial institution or specialized financing corporation that is controlled by the corporation.

(4) A provincial corporation must deliver written notice to the Superintendent 10 days before acquiring or increasing a substantial investment in a body corporate referred to in clause (2) (b).

MINORITY INVESTMENTS

141. In this Part,

"designated body corporate" means a body corporate referred to in any of clauses 115 (1) (a), (b), (c), (k) and (l);

"value" means,

- (a) in respect of a share or loan held by a provincial corporation or a prescribed subsidiary at a particular time, the book value of the share or loan that would be reported on the balance sheet of the corporation or subsidiary prepared as at that time in accordance with generally accepted accounting principles, and
- (b) in respect of a guarantee, the face value of the guarantee.

142. (1) Despite section 140 and subject to section 143, a provincial corporation may acquire, increase or hold a substantial investment in a designated body corporate.

(2) If the designated body corporate is a foreign institution, subsection (1) applies only if the activities of the designated body corporate are regulated by laws of the jurisdiction in which it carries on business.

(3) A provincial corporation must deliver written notice to the Superintendent 20 days before acquiring or increasing a substantial investment in a designated body corporate.

143. (1) A provincial corporation shall not acquire or increase a substantial investment in a designated body corporate under section 142 if, after the acquisition or increase, the total value of the following would exceed 50 per cent of the capital base of the corporation:

1. All shares beneficially owned by the corporation, and all shares beneficially owned by entities controlled by the corporation, in designated bodies corporate in which the corporation has a substantial investment but which it does not control.
2. All loans held by the corporation, and all loans held by entities controlled by the corporation, that were made to designated bodies corporate in which the corporation has a substantial investment but which it does not control.
3. All outstanding guarantees given by the corporation, and all outstanding guarantees given by entities controlled by the corporation, on behalf of designated bodies corporate in which the corporation has a substantial investment but which it does not control.

(2) A provincial corporation that has a substantial investment in a designated body corporate which it does not control shall not make a loan to, or give a guarantee on behalf of, the designated body corporate, or permit entities controlled by it to do so, if, after the making of the loan or the giving of the guarantee, the total value referred to in subsection (2) would exceed 50 per cent of the capital base of the corporation.

(3) In calculating the total values referred to in subsections (1) and (2), no amount shall be included in respect of shares acquired under sections 135 and 136.

SUBSTANTIAL INVESTMENT

144. For the purposes of this Regulation, a person has a substantial investment in,

- (a) a body corporate if,
 - (i) the voting rights attached to the aggregate of any voting shares of the body corporate beneficially owned by the person and by any entities controlled by the person exceed 10 per cent of the voting rights attached to all of the outstanding voting shares of the body corporate, or
 - (ii) the aggregate of any shares of the body corporate beneficially owned by the person and by any entities controlled by the person represents ownership of greater than 25 per cent of the shareholders' equity of the body corporate; and
- (b) an unincorporated entity if the aggregate of any ownership interests, however designated, into which the entity is divided, beneficially owned by the person and by any entities controlled by the person exceeds 25 per cent of all of the ownership interests into which the entity is divided.

145. Nothing in this Part requires the termination of a loan, the disposal of an investment, the termination of a commitment to make a loan or investment or the termination of a commitment to increase a loan or investment if the loan, investment or commitment was made before the coming into force of this Part but, if the loan or investment would be precluded or limited by this Part, the loan or investment shall not be increased after the coming into force of this Part, except pursuant to a commitment that was made before the coming into force of this Part.

REAL ESTATE INTEREST VALUATION

146. (1) In this Part,

"designated entity" means an entity other than,

- (a) a joint venture,
- (b) an insurance company,
- (c) a securities dealer, or
- (d) an entity that is controlled by an insurance company or securities dealer;

"joint venture" means a real estate entity,

- (a) that was formed for the purpose of a specific business undertaking by,
 - (i) a provincial corporation or by a designated entity controlled by a provincial corporation, and
 - (ii) one or more other persons,
- (b) in which the corporation or designated entity has a substantial investment, and
- (c) in respect of which the persons who formed the entity have agreed on joint control, regardless of the distribution of their equity;

"real estate entity" means a real estate corporation or a real estate holding vehicle;

"related real estate entity", in respect of a provincial corporation, means,

- (a) a real estate entity, other than a designated entity controlled by the corporation, in which the corporation or a designated entity controlled by the corporation beneficially owns sufficient shares or ownership interests to cause the corporation or designated entity to have a substantial investment in the real estate entity, or
- (b) a real estate entity that is controlled by a real estate entity described in clause (a);

"third party", in respect of a provincial corporation, means a person other than,

- (a) the corporation,
- (b) a designated entity controlled by the corporation, or
- (c) a related real estate entity of the corporation.

(2) For the purposes of sections 131 and 133, a prescribed subsidiary of a provincial corporation is a subsidiary of the corporation other than an insurance company, a securities dealer or a subsidiary of an insurance company or securities dealer.

(3) For the purposes of sections 148 to 151, the book value of an asset that is an interest of a provincial corporation in real estate, at a particular time, is,

- (a) if the asset is real estate, the gross book value of the real estate, less any accumulated depreciation, that would be reported on a balance sheet of the corporation prepared as at that time in accordance with generally accepted accounting principles; and
- (b) if the asset is a security or loan, the book value of the security or loan that would be reported on a balance sheet of the corporation prepared as at that time in accordance with generally accepted accounting principles.

147. For the purposes of this Part, the interests of a provincial corporation in real estate refers to the interests set out in sections 148 to 152.

DIRECT INTERESTS—REAL ESTATE AND DEBT OBLIGATIONS

148. (1) The following are interests of a provincial corporation in real estate:

- 1. Real estate beneficially owned by the corporation or by a designated entity controlled by the corporation.
- 2. A debt obligation issued for the purpose of acquiring or improving the real estate referred to in paragraph 1, or secured by that real estate, for which the corporation or a designated entity controlled by the corporation is liable.

(2) The value of the interests of a provincial corporation in real estate is,

- (a) in respect of real estate referred to in paragraph 1 of subsection (1), the book value of the real estate; and
- (b) in respect of a debt obligation referred to in paragraph 2 of subsection (1), any amount by which the book value of the debt obligation exceeds the book value of the real estate referred to in that paragraph.

INDIRECT INTERESTS—REAL ESTATE, SHARE AND OWNERSHIP INTERESTS

149. (1) The following are interests of a provincial corporation in real estate:

- 1. Real estate beneficially owned by a related real estate entity of the corporation that is a joint venture or by an entity in which the joint venture has a substantial investment, if the real estate would be reported on a balance sheet of the corporation prepared in accordance with generally accepted accounting principles.
- 2. Shares and ownership interests beneficially owned by the corporation, or by a designated entity controlled by the corporation, in any related real estate entity of the corporation other than a related real estate entity referred to in paragraph 1.

(2) The value of the interests of a provincial corporation in real estate is,

- (a) in respect of real estate referred to in paragraph 1 of subsection (1), the book value of the real estate; and
- (b) in respect of shares and ownership interests referred to in paragraph 2 of subsection (1), the book value of the shares and ownership interests.

INDIRECT INTERESTS—LOANS AND DEBT OBLIGATIONS

150. (1) The following are interests of a provincial corporation in real estate:

- 1. A debt obligation issued by a related real estate entity of the corporation and beneficially owned by the corporation or by a designated entity controlled by the corporation.
- 2. A loan made by the corporation, or by a designated entity controlled by the corporation, to a related real estate entity of the corporation.
- 3. A loan made by the corporation, or by a designated entity controlled by the corporation, to,

- i. a real estate entity in which a securities dealer or insurance company controlled by the corporation has a substantial investment, or
- ii. a real estate entity that is controlled by a real estate entity described in subparagraph i.

- 4. A debt obligation issued by a real estate entity described in paragraph 3 and beneficially owned by the corporation or by a designated entity controlled by the corporation.

- 5. A debt obligation that is,

- i. issued by a related real estate entity of the corporation,
- ii. beneficially owned by a third party, and
- iii. guaranteed by the corporation or by a designated entity controlled by the corporation.

- 6. A loan made by a third party to a related real estate entity of the corporation and guaranteed by the corporation or by a designated entity controlled by the corporation.

(2) The value of the interests of a provincial corporation in real estate is,

- (a) in respect of a debt obligation referred to in paragraph 1 or 4 of subsection (1), the book value of the debt obligation;

- (b) in respect of a loan referred to in paragraph 2 or 3 of subsection (1), the book value of the loan;
- (c) in respect of a guaranteed debt obligation referred to in paragraph 5 of subsection (1) or a guaranteed loan referred to in paragraph 6 of subsection (1),
 - (i) if the debt obligation is issued by, or the loan is made to, a related real estate entity that beneficially owns real estate that is an interest of the corporation in real estate under paragraph 1 of subsection 149 (1), any amount by which the face value of the guarantee exceeds the value of the real estate calculated in accordance with clause 149 (2) (a), and
 - (ii) in any case other than that set out in subclause (i), the face value of the guarantee.

INDIRECT INTERESTS—SECURED LOANS AND DEBT OBLIGATIONS

151. (1) If a provincial corporation or a designated entity controlled by a corporation makes a loan to, or beneficially owns or guarantees the debt obligation of, a third party, the loan or debt obligation is an interest of the corporation in real estate if it is secured by,

- (a) real estate beneficially owned by a third party in conjunction with,
 - (i) the corporation,
 - (ii) the designated entity,
 - (iii) a related real estate entity of the corporation,
 - (iv) a securities dealer or insurance company controlled by the corporation,
 - (v) an entity controlled by a securities dealer or insurance company controlled by the corporation, or
 - (vi) a real estate entity described in subparagraph i or ii of paragraph 3 of subsection 150 (1);
- (b) shares or ownership interests beneficially owned by a third party in,
 - (i) an entity that beneficially owns real estate in conjunction with the corporation, a related real estate entity of the corporation or a designated entity controlled by the corporation, or
 - (ii) a related real estate entity of the corporation.

(2) The value of the interests of a provincial corporation in real estate is,

- (a) in respect of a loan or debt obligation that is secured by real estate referred to in clause (1) (a), the lesser of,
 - (i) the net realizable value of the third party's interest in the real estate at the time that the security interest was given, and
 - (ii) either,
 - (A) if the loan was made by the corporation or a designated entity controlled by the corporation or the debt obligation is beneficially owned by the corporation or a designated entity controlled by the corporation, the book value of the loan or debt obligation, or

- (B) if the debt obligation is guaranteed by the corporation or a designated entity controlled by the corporation, the face value of the guarantee,

less the total net realizable value of any other security interests that were given for the loan or debt obligation;

- (b) in respect of a loan or debt obligation that is secured by shares or ownership interests beneficially owned by a third party in an entity referred to in subclause (1) (b) (i), the lesser of,

- (i) the net realizable value of the third party's interest in those shares or ownership interests at the time that the security interest was given, and

- (ii) either,

- (A) if the loan was made by the corporation or a designated entity controlled by the corporation or the debt obligation is beneficially owned by the corporation or a designated entity controlled by the corporation, the book value of the loan or debt obligation, or

- (B) if the debt obligation is guaranteed by the corporation or a designated entity controlled by the corporation, the face value of the guarantee,

less any amount by which,

- (C) the total net realizable value of all security interests that were given for the loan or debt obligation,

exceeds,

- (D) the product obtained by multiplying the net realizable value of the entity's interest in the real estate referred to in subclause (1) (b) (i) by the percentage that the shares or ownership interests that are given as the security interest constitute of the total outstanding shares or ownership interests in the entity; and

- (c) in respect of a loan or debt obligation that is secured by shares or ownership interests beneficially owned by a third party in a related real estate entity referred to in subclause (1) (b) (ii), the lesser of,

- (i) the net realizable value of the third party's interest in those shares or ownership interests at the time that the security interest was given, and

- (ii) either,

- (A) if the loan was made by the corporation or a designated entity controlled by the corporation or the debt obligation is beneficially owned by the corporation or a designated entity controlled by the corporation, the book value of the loan or debt obligation, or

- (B) if the debt obligation is guaranteed by the corporation or a designated entity controlled by the corporation, the face value of the guarantee,

less the total net realizable value of any other security interests that were given for the loan or debt obligation.

OTHER INTERESTS

152. (1) The following are interests of a provincial corporation in real estate:

1. A guarantee given by the corporation, or by a designated entity controlled by the corporation, to an entity other than the

corporation or the designated entity for the purpose of completing the development of real estate that is beneficially owned by,

- i. the corporation,
- ii. the designated entity controlled by the corporation, or
- iii. a related real estate entity of the corporation.

2. An agreement made by the corporation, or by a designated entity controlled by the corporation, to support a third party's cost of operating or financing real estate that is beneficially owned by,

- i. the corporation,
- ii. the designated entity controlled by the corporation, or
- iii. a related real estate entity of the corporation.

(2) The value of the interests of a provincial corporation in real estate is,

- (a) in respect of a guarantee referred to in paragraph 1 of subsection (1), the estimated cost of completing the development of the real estate;
- (b) in respect of an agreement referred to in paragraph 2 of subsection (1), the amount of any funds advanced by the corporation, or by a designated entity controlled by the corporation, pursuant to the agreement.

33. Schedules I and II of the Regulation are revoked.

34. Forms 1 to 5 of the Regulation are revoked.

35. This Regulation comes into force on December 1, 1997.

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ONTARIO REGULATION 414/97
made under the
CREDIT UNIONS AND CAISSES POPULAIRES ACT, 1994

Made: November 19, 1997
Filed: November 20, 1997

Amending O. Reg. 76/95
(Credit Unions)

Note: Ontario Regulation 76/95 has not previously been amended.

1. The definition of "authorized types of insurance" in section 28 of Ontario Regulation 76/95 is revoked and the following substituted:

"authorized types of insurance" means the types of insurance listed in subsection 34 (1). ("types d'assurance autorisés")

2. Section 41 of the Regulation is revoked and the following substituted:

41. (1) A credit union shall not promote an insurance company, agent or broker unless,

- (a) the company, agent or broker deals only in authorized types of insurance; or
- (b) the promotion takes place outside the head office and any other office of the credit union, and is directed to,
 - (i) all of the holders of credit cards or charge cards issued by the credit union to whom statements of account are mailed regularly,
 - (ii) all of the credit union members who are individuals and to whom statements of account are mailed regularly, or
 - (iii) the general public.

(2) A credit union shall not promote an insurance policy of an insurance company, agent or broker, or a service provided in respect of such a policy, unless,

RÈGLEMENT DE L'ONTARIO 414/97
pris en application de la
LOI DE 1994 SUR LES CAISSES POPULAIRES
ET LES CREDIT UNIONS

pris le 19 novembre 1997
déposé le 20 novembre 1997

modifiant le Règl. de l'Ont. 76/95
(Caisses populaires)

Remarque : Le Règlement de l'Ontario 76/95 n'a pas été modifié antérieurement.

1. La définition de «types d'assurance autorisés» à l'article 28 du Règlement de l'Ontario 76/95 est abrogée et remplacée par ce qui suit :

«types d'assurance autorisés» Types d'assurance énumérés au paragraphe 34 (1). («authorized types of insurance»)

2. L'article 41 du Règlement est abrogé et remplacé par ce qui suit :

41. (1) La caisse ne doit pas faire la promotion d'une compagnie d'assurance ou d'un agent ou d'un courtier d'assurances sauf si, selon le cas :

- a) la compagnie, l'agent ou le courtier ne fait le commerce que de types d'assurance autorisés;
- b) la promotion s'effectue à l'extérieur du siège social et de tout autre bureau de la caisse et s'adresse :
 - (i) soit à tous les titulaires de cartes de crédit délivrées par la caisse qui reçoivent régulièrement par la poste un relevé de compte,
 - (ii) soit à tous les sociétaires de la caisse qui sont des personnes physiques et qui reçoivent régulièrement par la poste un relevé de compte,
 - (iii) soit au grand public.

(2) La caisse ne doit pas faire la promotion d'une police d'assurance offerte par une compagnie d'assurance ou un agent ou un courtier d'assurances ni d'un service se rapportant à une telle police sauf si, selon le cas :

- (a) the policy is of an authorized type of insurance or the service is in respect of such a policy;
- (b) the policy is to be provided by a corporation without share capital (other than a mutual insurance company or a fraternal benefit society) that carries on business without pecuniary gain to its members and the policy provides insurance to an individual in respect of the risks covered by travel insurance;
- (c) the service is in respect of a policy described in clause (b); or
- (d) the promotion takes place outside the head office of the credit union and any other office of the credit union, and is directed to,
 - (i) all of the holders of credit cards or charge cards issued by the credit union to whom statements of account are mailed regularly,
 - (ii) all of the credit union members who are individuals and to whom statements of account are mailed regularly, or
 - (iii) the general public.

(3) A credit union may exclude the following persons from a promotion described in clause (1) (b) or (2) (d):

1. Persons in respect of whom the promotion would contravene an Act of Parliament or of the legislature of a province.
2. Persons who have notified the credit union in writing that they do not wish to receive promotional material from the credit union.
3. Persons who hold a credit card or charge card issued by the credit union in respect of which the account is not in good standing.

49/97

ONTARIO REGULATION 415/97
made under the
PENSION BENEFITS ACT

Made: November 19, 1997
Filed: November 20, 1997

Amending Reg. 909 of R.R.O. 1990
(General)

Note: Since January 1, 1997, Regulation 909 has been amended by Ontario Regulation 286/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Subsection 8 (3) of Regulation 909 of the Revised Regulations of Ontario, 1990 is amended by striking out "December 31, 1997" at the end and substituting "December 31, 1998".

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- a) la police accorde un type d'assurance autorisé ou le service se rapporte à une telle police;
- b) la police est offerte par une personne morale sans capital-actions (autre qu'une société mutuelle d'assurance ou une société de secours mutuels) qui exerce ses activités sans gains pour ses membres et elle accorde à une personne physique une assurance contre les risques couverts par l'assurance voyage;
- c) le service se rapporte à une police visée à l'alinéa b);
- d) la promotion s'effectue à l'extérieur du siège social et de tout autre bureau de la caisse et s'adresse :
 - (i) soit à tous les titulaires de cartes de crédit délivrées par la caisse qui reçoivent régulièrement par la poste un relevé de compte,
 - (ii) soit à tous les sociétaires de la caisse qui sont des personnes physiques et qui reçoivent régulièrement par la poste un relevé de compte,
 - (iii) soit au grand public.

(3) La caisse peut exclure de la promotion visée à l'alinéa (1) b) ou (2) d) les personnes suivantes :

1. Les personnes dont il serait contraire à une loi fédérale ou provinciale qu'une telle promotion s'adresse à elles.
2. Les personnes qui ont avisé la caisse par écrit qu'elles ne désirent pas recevoir de matériel promotionnel de la caisse.
3. Les personnes qui sont titulaires d'une carte de crédit qui a été délivrée par la caisse et à l'égard de laquelle le compte n'est pas en règle.

RÈGLEMENT DE L'ONTARIO 415/97
pris en application de la
LOI SUR LES RÉGIMES DE RETRAITE

pris le 19 novembre 1997
déposé le 20 novembre 1997

modifiant le Règl. de l'Ont. 909 des R.R.O. de 1990
(Dispositions générales)

Remarque : Depuis le 1^{er} janvier 1997, le Règlement 909 a été modifié par le Règlement de l'Ontario 286/97. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. Le paragraphe 8 (3) du Règlement 909 des Règlements refondus de l'Ontario de 1990 est modifié par substitution de «31 décembre 1998» à «31 décembre 1997» à la fin.

ONTARIO REGULATION 416/97
made under the
HIGHWAY TRAFFIC ACT

Made: November 20, 1997
Filed: November 20, 1997

Amending O. Reg. 340/94
(Drivers' Licences)

Note: Since January 1, 1997, Ontario Regulation 340/94 has been amended by Ontario Regulations 149/97 and 251/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 24 of Ontario Regulation 340/94 is amended by adding the following subsection:

(1.1) Despite subsection (1), the term of every temporary licence that, other than by the operation of this subsection, would expire on or after the day that this subsection comes into force is extended for 90 days after the expiry date shown on the licence.

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ONTARIO REGULATION 417/97
made under the
COURTS OF JUSTICE ACT

Made: November 19, 1997
Approved: November 19, 1997
Filed: November 21, 1997

Amending O. Reg. 223/97
(Rules for the Toronto Region E-Filing Pilot Project)

Note: Ontario Regulation 223/97 has not previously been amended.

1. (1) Subrule 3.01 (1) of Ontario Regulation 223/97 is amended,

(a) **by striking out paragraph 6; and**

(b) **by adding the following paragraphs:**

24. Certificate of litigation guardian for plaintiff.

25. Certificate of litigation guardian for defendant.

(2) Subrule 3.01 (2) is amended by striking out "Subject to subrules (3) and (4)" at the beginning and substituting "Subject to subrules (3), (4) and (5)".

(3) Rule 3.01 is amended by adding the following subrules:

(5) The certificate of litigation guardian for a plaintiff template (Form 3) and the certificate of litigation guardian for a defendant template (Form 4) shall be used to generate the certificates referred to in paragraphs 24 and 25 of subrule (1), respectively, and, when filed in accordance with these rules, the certificates shall be deemed to be the affidavits of the litigation guardians referred to in subrule 7.02 (2) and subrule 7.03 (2.2) of the Rules of Civil Procedure, respectively.

Notice of Defence

(6) A defendant whose lawyer is a participant shall not file a notice of defence under rule 18.03 or rule 77.09 of the Rules of Civil Procedure and shall file a statement of defence.

2. The Regulation is amended by adding the following Forms:

RÈGLEMENT DE L'ONTARIO 417/97
pris en application de la
LOI SUR LES TRIBUNAUX JUDICIAIRES

pris le 19 novembre 1997
approuvé le 19 novembre 1997
déposé le 21 novembre 1997

modifiant le Règl. de l'Ont. 223/97
(Règles du projet pilote de dépôt électronique
de la région de Toronto)

Remarque : Le Règlement de l'Ontario 223/97 n'a pas été modifié antérieurement.

1. (1) Le paragraphe 3.01 (1) du Règlement de l'Ontario 223/97 est modifié :

a) **par suppression de la disposition 6;**

b) **par adjonction des dispositions suivantes :**

24. Certificat de tuteur à l'instance du demandeur.

25. Certificat de tuteur à l'instance du défendeur.

(2) Le paragraphe 3.01 (2) est modifié par substitution de «Sous réserve des paragraphes (3), (4) et (5)» à «Sous réserve des paragraphes (3) et (4)» au début du paragraphe.

(3) La règle 3.01 est modifiée par adjonction des paragraphes suivants :

(5) La formule électronique de certificat de tuteur à l'instance d'un demandeur (formule 3) et la formule électronique de certificat de tuteur à l'instance d'un défendeur (formule 4) sont utilisées pour produire les certificats visés aux dispositions 24 et 25 du paragraphe (1), respectivement. Lorsqu'ils sont déposés conformément à ces règles, les certificats sont réputés être les affidavits des tuteurs à l'instance visés aux paragraphes 7.02 (2) et 7.03 (2.2) des Règles de procédure civile, respectivement.

Avis de défense

(6) Le défendeur dont l'avocat est un participant ne doit pas déposer d'avis de défense aux termes de la règle 18.03 ou de la règle 77.09 des Règles de procédure civile mais doit déposer une défense.

2. Le Règlement est modifié par adjonction des formules suivantes :

Form 3

Courts of Justice Act

Ontario Court (General Division)

CERTIFICATE OF LITIGATION GUARDIAN FOR PLAINTIFF TEMPLATE

This process is subject to the Rules for
Toronto Region E-Filing Pilot Project

Case Number Identification Box

Original OR Subsequent Proceedings Number:

Original OR Subsequent E-File Reference Number:

Filing Party Lawyer (complete applicable details)

LSUC#:

Court e-mail:

Lawyer:

Law Firm:

Address:

City:

Postal Code:

Province:

Phone:

Fax:

..... (name of filing party's lawyer) certify that I have in my possession the original affidavit of (name), the person proposing to be litigation guardian, in which it is deposed that:

1. The affiant consents to act as litigation guardian in this proceeding for (name person under disability).

2. The affiant has given me written authority to act as lawyer for the plaintiff in this proceeding.

3. The affiant has the following evidence of the nature and extent of the disability of the person under disability (set out details of evidence):

.....
.....
.....

4. (Add the following if person under disability is a minor) The birth date of the person under disability is: (dd/mm/yy).

5. (If applicable, add the following) The affiant's relationship to the person under disability is:

.....

6. The affiant has no interest in the proceeding adverse to that of the person under disability.

7. The affiant has been informed that he or she may be personally liable to pay any costs awarded against the affiant or the person under disability.

UPON request of the Court or a party to this proceeding, I (name of filing party's lawyer) shall produce the affidavit to the Court or to the party, as the case may be, within five days. I understand that this certificate does not replace the affidavit under subrule 7.02 (2).

Formule 3

Loi sur les tribunaux judiciaires

Cour de l'Ontario (Division générale)

FORMULE ÉLECTRONIQUE DE CERTIFICAT DE TUTEUR À L'INSTANCE DU DEMANDEUR

**Le présent acte de procédure est assujéti
aux Règles du projet pilote de dépôt électronique
de la région de Toronto.**

Numéro de dossier

N° de l'instance initiale OU subséquente :

N° de référence électronique de l'instance initiale OU subséquente :

Avocat(e) de la partie qui effectue le dépôt (fournir les renseignements pertinents)

N° de membre du BHC :

Avocat(e) :

Adresse du cabinet :

Province :

Téléphone :

Adresse électronique du tribunal :

Ville :

Code postal :

Télécopieur :

..... (nom de l'avocat(e) de la partie qui effectue le dépôt) certifie que j'ai en ma possession l'original de l'affidavit de
(nom), soit la personne qui se propose d'agir en qualité de tuteur(trice) à l'instance, lequel affidavit atteste des faits suivants :

1. Le (La) souscripteur(trice) de l'affidavit consent à agir en qualité de tuteur(trice) à l'instance dans l'instance précitée au nom de
(nommer l'incapable).
2. Le (La) souscripteur(trice) de l'affidavit m'a donné par écrit le pouvoir d'agir à titre d'avocat du demandeur dans l'instance précitée.
3. Le (La) souscripteur(trice) de l'affidavit détient la preuve suivante de la nature et de l'étendue de l'incapacité de l'incapable (donner le détail
de la preuve) :
.....
.....
4. (Ajouter ce qui suit si l'incapable est un mineur). La date de naissance de l'incapable est : (jj/mm/aa).
5. (S'il y a lieu, ajouter ce qui suit :) Le lien du souscripteur (de la souscriptrice) de l'affidavit avec l'incapable est le suivant :
.....
6. Le (La) souscripteur(trice) de l'affidavit n'a, dans l'instance précitée, aucun intérêt opposé à celui de l'incapable.
7. Le (La) souscripteur(trice) de l'affidavit a été informé(e) qu'il (elle) pourrait être tenu(e) personnellement responsable de tous les dépens aux-
quels lui-même (elle-même) ou l'incapable pourrait être condamné.

SUR demande du tribunal ou d'une partie à l'instance précitée, je (nom de l'avocat(e) de la partie qui effec-
tue le dépôt) produirai l'affidavit au tribunal ou à la partie, selon le cas, dans un délai de cinq jours. Je suis au courant du fait que le présent
certificat ne remplace pas l'affidavit visé au paragraphe 7.02 (2).

Form 4

Courts of Justice Act

Ontario Court (General Division)

CERTIFICATE OF LITIGATION GUARDIAN FOR DEFENDANT TEMPLATE

This process is subject to the Rules for
Toronto Region E-Filing Pilot Project

Case Number Identification Box

Original OR Subsequent Proceedings Number:

Original OR Subsequent E-File Reference Number:

Filing Party Lawyer (complete applicable details)

LSUC#:

Lawyer:

Law Firm

Address:

Province:

Phone:

Court e-mail:

City:

Postal Code:

Fax:

..... (name of filing party's lawyer) certify that I have in my possession the original affidavit of (name), the person proposing to be litigation guardian, in which it is deposed that:

1. The nature of this proceeding is as follows:
2. The cause of action arose on: (dd/mm/yy).
3. The proceeding was commenced on: (dd/mm/yy).
4. The affiant has the following evidence of the service of the originating process on (name of person under disability) (set out details of evidence):
.....
.....
5. The affiant has the following evidence of the request for the appointment of a litigation guardian (set out details of evidence):
.....
.....
6. The affiant has the following evidence of the nature and extent of the disability of the person under disability (set out details of evidence):
.....
.....
7. (Add the following if person under disability is a minor) The birth date of the person under disability is: (dd/mm/yy).
8. The person under disability ordinarily resides in (set out place of ordinary residence):
9. (If applicable, add the following) The affiant's relationship to the person under disability is:
10. The affiant ordinarily resides in (set out place of ordinary residence):
11. The affiant consents to act as litigation guardian in this proceeding.
12. The affiant is the proper person to be appointed litigation guardian for the following reasons: (set out reasons and evidence relied upon):
.....
13. The affiant has no interest in the proceeding adverse to that of the person under disability.
14. The affiant has been informed that he or she may incur costs that may not be recovered from another party.

UPON request of the Court or a party to this proceeding, I (name of filing party's lawyer) shall produce the affidavit to the Court or to the party, as the case may be, within five days. I understand that this certificate does not replace the affidavit under subrule 7.03 (2.2).

Formule 4

Loi sur les tribunaux judiciaires

Cour de l'Ontario (Division générale)

FORMULE ÉLECTRONIQUE DE CERTIFICAT DE TUTEUR À L'INSTANCE DU DÉFENDEUR

Le présent acte de procédure est assujéti
aux Règles du projet pilote de dépôt électronique
de la région de Toronto.

Numéro de dossier

N° de l'instance initiale OU subséquente :

N° de référence électronique de l'instance initiale OU subséquente :

Avocat(e) de la partie qui effectue le dépôt (*fournir les renseignements pertinents*)

N° de membre du BHC :

Avocat(e) :

Adresse du cabinet :

Adresse électronique du tribunal :

Ville :

Code postal :

Province :

Téléphone :

Télécopieur :

..... (*nom de l'avocat(e) de la partie qui effectue le dépôt*) certifie que j'ai en ma possession l'original de l'affidavit de
(*nom*), soit la personne qui se propose d'agir en qualité de tuteur(trice) à l'instance, lequel affidavit atteste des faits suivants :

1. La nature de l'instance précitée est la suivante :
2. La cause d'action est née le : (*jj/mm/aa*).
3. L'instance a été introduite le : (*jj/mm/aa*).
4. Le (La) souscripteur(trice) de l'affidavit détient la preuve suivante de la signification de l'acte introductif d'instance à (*nom de l'incapable*)
(*donner le détail de la preuve*) :
.....
5. Le (La) souscripteur(trice) de l'affidavit détient la preuve suivante de la demande de nomination d'un tuteur ou d'une tutrice à l'instance (*donner le détail de la preuve*) :
.....
6. Le (La) souscripteur(trice) de l'affidavit détient la preuve suivante de la nature et de l'étendue de l'incapacité de l'incapable (*donner le détail de la preuve*) :
.....
7. (*Ajouter ce qui suit si l'incapable est un mineur*). La date de naissance de l'incapable est : (*jj/mm/aa*).
8. L'incapable réside ordinairement à (*indiquer le lieu de résidence ordinaire*) :
9. (*S'il y a lieu, ajouter ce qui suit :*) Le lien du souscripteur (de la souscriptrice) de l'affidavit avec l'incapable est le suivant :
.....
.....
10. Le (La) souscripteur(trice) de l'affidavit réside ordinairement à (*indiquer le lieu de résidence ordinaire*) :
11. Le (La) souscripteur(trice) de l'affidavit consent à agir en qualité de tuteur(trice) à l'instance dans l'instance précitée.
12. Le (La) souscripteur(trice) de l'affidavit est une personne apte à être nommée tuteur(trice) à l'instance pour les motifs suivants : (*indiquer les motifs et les éléments de preuve invoqués*)
.....

13. Le (La) souscripteur(trice) de l'affidavit n'a, dans l'instance précitée, aucun intérêt opposé à celui de l'incapable.
14. Le (La) souscripteur(trice) de l'affidavit a été informé(e) qu'il (elle) pourrait ne pas recouvrer d'une autre partie tous les dépens qu'il (elle) a engagés.

SUR demande du tribunal ou d'une partie à l'instance précitée, je (*nom de l'avocat(e) de la partie qui effectue le dépôt*) produirai l'affidavit au tribunal ou à la partie, selon le cas, dans un délai de cinq jours. Je suis au courant du fait que le présent certificat ne remplace pas l'affidavit visé au paragraphe 7.03 (2.2).

Publications under the Regulations Act Publications en vertu de la Loi sur les règlements

1997—12—13

ONTARIO REGULATION 418/97 made under the LONDON-MIDDLESEX ACT, 1992

Made: November 25, 1997

Filed: November 27, 1997

Amending O. Reg. 333/93
(Land Use—City of London)

Note: Ontario Regulation 333/93 has not previously been amended.

1. Section 1 of Ontario Regulation 333/93 is amended by adding the following paragraph:

4. The land in the City of London, formerly in the Township of London, consisting of part of the north half of lots 25 and 26 in Concession III, being Part 2 of Reference Plan 33R-10379, and designated "Industrial" in the City of London official plan in effect on January 1, 1993.

AL LEACH
Minister of Municipal Affairs and Housing

Dated on November 25, 1997.

50/97

ONTARIO REGULATION 419/97 made under the PLANNING ACT

Made: November 25, 1997

Filed: November 27, 1997

Amending O. Reg. 346/96
(Withdrawal and Delegation of Minister's Authority—
Regional Municipality of York and City of Vaughan)

Note: Ontario Regulation 346/96 has not previously been amended.

1. Schedule 1 of Ontario Regulation 346/96 is amended by adding the following file numbers:

| | |
|-----------|-----------|
| 19T-94051 | 19T-91017 |
| 19T-94045 | 19T-91011 |
| 19T-94043 | 19T-91009 |
| 19T-94038 | 19T-91001 |
| 19T-94037 | 19T-90037 |
| 19T-93023 | 19T-90035 |
| 19T-92017 | 19T-90028 |
| 19T-92001 | 19T-90027 |
| 19T-91034 | 19T-90018 |
| 19T-91018 | 19T-90009 |

| | |
|-----------|-----------|
| 19T-90008 | 19T-88084 |
| 19T-89129 | 19T-88076 |
| 19T-89125 | 19T-88055 |
| 19T-89124 | 19T-88037 |
| 19T-89122 | 19T-88034 |
| 19T-89121 | 19T-88028 |
| 19T-89118 | 19T-88024 |
| 19T-89102 | 19T-88021 |
| 19T-89094 | 19T-88004 |
| 19T-89090 | 19T-87118 |
| 19T-89082 | 19T-87101 |
| 19T-89081 | 19T-87100 |
| 19T-89080 | 19T-87091 |
| 19T-89079 | 19T-87088 |
| 19T-89066 | 19T-87078 |
| 19T-89064 | 19T-87076 |
| 19T-89063 | 19T-87060 |
| 19T-89058 | 19T-87050 |
| 19T-89056 | 19T-87047 |
| 19T-89053 | 19T-87014 |
| 19T-89051 | 19T-86096 |
| 19T-89050 | 19T-86092 |
| 19T-89047 | 19T-86077 |
| 19T-89037 | 19T-86041 |
| 19T-89035 | 19T-85094 |
| 19T-89027 | 19T-84076 |
| 19T-89025 | 19T-84047 |
| 19T-89016 | 19T-84029 |
| 19T-89015 | 19T-83067 |
| 19T-89001 | 19T-83051 |
| 19T-88099 | 19T-82052 |
| 19T-88096 | 19T-81061 |
| 19T-88095 | 19T-80002 |

2. Schedule 2 to the Regulation is amended by adding the following file numbers:

19CDM-92001
19CDM-91019
19CDM-91016
19CDM-89069
19CDM-89058

AL LEACH
Minister of Municipal Affairs and Housing

Dated on November 25, 1997.

50/97

ONTARIO REGULATION 420/97

made under the
POLICE SERVICES ACT

Made: November 27, 1997

Filed: November 27, 1997

**COSTS OF ONTARIO PROVINCIAL POLICE
SERVICES TO MUNICIPALITIES UNDER
SECTION 5.1 OF THE ACT**

1. (1) In this Regulation,

“OPP” means the Ontario Provincial Police.

(2) In subparagraphs i, ii, iii and iv of paragraph 2 of section 2,

“proportionate amount” means an amount that is in the same proportion to a total amount as the number of OPP police officers assigned to a detachment serving a municipality is to the number of OPP police officers assigned to serve in the field, regional headquarters and general headquarters.

(3) In subparagraphs v, vi, vii and viii of paragraph 2 of section 2,

“proportionate amount” means an amount that is in the same proportion to a total amount as the number of OPP police officers assigned to a detachment serving a municipality is to the number of OPP police officers assigned to serve in the field.

(4) In subparagraph ix of paragraph 2 of section 2,

“proportionate amount” means an amount that is in the same proportion to a total amount as the number of OPP police officers assigned to a detachment serving a municipality is to the number of OPP police officers assigned to serve in the field and in regional headquarters.

2. The amount owed by a municipality that is provided police services by the OPP under section 5.1 of the Act shall consist of the following costs:

1. The direct costs of providing police services to the municipality, including,

i. the actual salaries, wages, overtime payments, vacation pay, statutory holiday pay and benefits paid to the police officers and other employees of the OPP who serve or support policing in the municipality,

ii. the actual amount paid as shift premiums, service badges, allowances and any other compensation under a collective agreement paid to the police officers of the OPP who serve or support policing in the municipality,

iii. the actual costs of maintaining the detachment to serve the municipality, including the costs for office rental, office maintenance services, office equipment, office furniture, electricity, heating and telephone service.

2. The operational support costs associated with providing police services to the municipality, including,

RÈGLEMENT DE L'ONTARIO 420/97

pris en application de la
LOI SUR LES SERVICES POLICIERS

pris le 27 novembre 1997

déposé le 27 novembre 1997

**COÛTS DES SERVICES DE LA POLICE PROVINCIALE
DE L'ONTARIO QUE DOIVENT ASSUMER
DES MUNICIPALITÉS AUX TERMES DE
L'ARTICLE 5.1 DE LA LOI**

1. (1) La définition qui suit s'applique au présent règlement.

«Police provinciale» La Police provinciale de l'Ontario.

(2) La définition qui suit s'applique aux sous-dispositions i, ii, iii et iv de la disposition 2 de l'article 2.

«montant proportionnel» Montant dont le rapport avec un montant total est le même que le rapport existant entre le nombre d'agents de police de la Police provinciale affectés à un détachement qui sert une municipalité et le nombre d'agents de police de la Police provinciale qui sont affectés au travail sur le terrain, au quartier général régional et au Grand quartier général.

(3) La définition qui suit s'applique aux sous-dispositions v, vi, vii et viii de la disposition 2 de l'article 2.

«montant proportionnel» Montant dont le rapport avec un montant total est le même que le rapport existant entre le nombre d'agents de police de la Police provinciale affectés à un détachement qui sert une municipalité et le nombre d'agents de police de la Police provinciale qui sont affectés au travail sur le terrain.

(4) La définition qui suit s'applique à la sous-disposition ix de la disposition 2 de l'article 2.

«montant proportionnel» Montant dont le rapport avec un montant total est le même que le rapport existant entre le nombre d'agents de police de la Police provinciale affectés à un détachement qui sert une municipalité et le nombre d'agents de police de la Police provinciale qui sont affectés au travail sur le terrain et au quartier général régional.

2. Le montant d'argent que doit une municipalité à laquelle la Police provinciale offre des services policiers aux termes de l'article 5.1 de la Loi comprend les coûts suivants :

1. Les coûts directement liés à l'offre de services policiers à la municipalité, notamment :

i. les traitements, salaires, indemnités d'heures supplémentaires, indemnités de vacances, rémunérations de jours fériés et avantages sociaux réellement versés aux agents de police et autres employés de la Police provinciale qui offrent les services policiers dans la municipalité, ou qui en assurent le soutien,

ii. le montant réellement versé au titre des primes de quart, des insignes pour ancienneté et états de service, des indemnités et de toute autre rémunération prévue par une convention collective, qui est versée aux agents de police de la Police provinciale qui offrent les services policiers dans la municipalité, ou qui en assurent le soutien,

iii. les coûts réellement engagés pour assurer le fonctionnement du détachement qui sert la municipalité, notamment les coûts de location des bureaux, des services d'entretien des bureaux, du matériel de bureau et de l'ameublement de bureau, ainsi que les frais d'électricité, de chauffage et du service téléphonique.

2. Les coûts en matière de soutien opérationnel liés à l'offre de services policiers à la municipalité, notamment :

- i. a proportionate amount of the OPP's general headquarters' costs of recruiting and training police officers and of equipping police officers with uniforms and equipment,
 - ii. a proportionate amount of the operating and maintenance costs for the OPP telecommunication system, backup and emergency communication systems, including insurance and hydro costs for the systems and the salaries, wages and benefits paid to the OPP communications officers,
 - iii. a proportionate amount of the operating and maintenance costs for OPP mobile radio equipment and related equipment in the province,
 - iv. a proportionate amount of the costs of the telephone lines for the Canadian Police Information Centre (CPIC),
 - v. a proportionate amount of the costs of the OPP Municipal Policing Section, including the salaries, wages, overtime payments, vacation pay, statutory holiday pay and benefits paid to the employees in the OPP Municipal Policing Section and other direct operating expenditures of the OPP Municipal Policing Section,
 - vi. a proportionate amount of the costs to the OPP of guarding prisoners and of providing prisoners with meals in the province,
 - vii. a proportionate amount of the operating costs for OPP vehicles used for municipal policing in the province, including costs for fuel, tires, repairs, maintenance, replacement, insurance and equipment depreciation,
 - viii. a proportionate amount of the costs of Police Information Systems,
 - ix. a proportionate amount of the costs of OPP office supplies and janitorial supplies for the province.
3. The municipality's share of the regional and general headquarters' costs of providing support services for municipal policing in the province, determined by multiplying the amount owed by the municipality under paragraphs 1 and 2 by a percentage that is equal to,
- i. the regional and general headquarters' costs of providing support services for municipal policing in the province,
- divided by
- ii. the OPP's total field operations costs.
3. (1) Before the beginning of each calendar year, the OPP shall give each municipality for which it will be providing police services under section 5.1 of the Act an estimate of the amount that the municipality will owe for the services for that year.
- (2) If the OPP begins to provide police services to a municipality under section 5.1 of the Act during a calendar year, the OPP shall give the municipality, as soon as possible, an estimate of the amount that the municipality will owe for the services for the remainder of that year.
- i. le montant proportionnel des frais engagés par le Grand quartier général de la Police provinciale pour le recrutement et la formation des agents de police et la dotation de ceux-ci en uniformes et en équipement et matériel,
 - ii. le montant proportionnel des coûts associés au fonctionnement et à l'entretien du système de télécommunications et des systèmes de communications de secours et d'urgence de la Police provinciale, y compris les frais d'assurance et d'électricité pour les systèmes ainsi que les traitements, salaires et avantages sociaux versés aux agents des communications de la Police provinciale,
 - iii. le montant proportionnel des coûts associés au fonctionnement et à l'entretien de l'équipement de radio mobile et de l'équipement connexe utilisés dans la province par la Police provinciale,
 - iv. le montant proportionnel des coûts des lignes téléphoniques utilisées par le Centre d'information de la police canadienne (CIPC),
 - v. le montant proportionnel des coûts de la Section des services policiers municipaux de la Police provinciale, notamment les traitements, salaires, indemnités d'heures supplémentaires, indemnités de vacances, rémunérations de jours fériés et avantages sociaux versés aux employés de cette section, et d'autres dépenses de fonctionnement directes de cette section,
 - vi. le montant proportionnel des coûts qu'engage la Police provinciale, dans la province, pour garder les prisonniers et leur fournir des repas,
 - vii. le montant proportionnel des coûts de fonctionnement associés aux véhicules de la Police provinciale utilisés pour offrir des services policiers municipaux dans la province, y compris les frais d'essence, les frais relatifs aux pneus, les frais de réparation, d'entretien, de remplacement et d'assurance, ainsi que l'amortissement pour dépréciation de l'équipement et du matériel,
 - viii. le montant proportionnel des coûts des systèmes d'information de la police,
 - ix. le montant proportionnel des coûts des fournitures de bureau et des fournitures et produits de nettoyage et d'entretien de la Police provinciale pour la province.
3. La part des coûts engagés par le Grand quartier général et le quartier général régional pour fournir des services de soutien à l'égard des services policiers municipaux offerts dans la province qui échoit à la municipalité et qui est déterminée en multipliant le montant dû par la municipalité aux termes des dispositions 1 et 2 par un pourcentage égal :
- i. aux coûts engagés par le Grand quartier général et le quartier général régional pour fournir des services de soutien à l'égard des services policiers municipaux offerts dans la province,
- divisés par :
- ii. le montant total des coûts des opérations sur le terrain engagés par la Police provinciale.

3. (1) Avant le début de chaque année civile, la Police provinciale remet à chaque municipalité à laquelle elle offrira des services policiers aux termes de l'article 5.1 de la Loi une estimation du montant que la municipalité devra payer à l'égard des services pour cette année-là.

(2) Si la Police provinciale commence à offrir des services policiers à une municipalité aux termes de l'article 5.1 de la Loi au cours d'une année civile, elle remet à la municipalité, dès que possible, une estimation du montant que celle-ci devra payer à l'égard des services pour le reste de cette année-là.

4. (1) The municipality shall pay the Minister of Finance the amount set out in the estimate in quarterly instalments, on March 31, June 30, September 30 and December 31 of each year.

(2) Interest on late payments shall be at the bank rate, as defined in subsection 127 (1) of the *Courts of Justice Act*, at the end of the first day of the last month of the quarter preceding the quarter for which the payment is late, rounded to the nearest tenth of a percentage point.

5. (1) After the end of the calendar year, the OPP shall determine the actual amount owed by the municipality in that year.

(2) If the actual amount owed by the municipality is less than the estimated amount, the difference shall be subtracted from the estimated amount owed by the municipality for the first quarter of the next year.

(3) If the actual amount owed by the municipality is greater than the estimated amount, the difference shall be added to the estimated amount owed by the municipality for the first quarter of the next year.

(4) If the OPP does not provide police services under section 5.1 of the Act to the municipality in the first quarter of the next year, any amount owed to the municipality under subsection (2) or to the OPP under subsection (3) shall be paid to the municipality or to the Minister of Finance, as the case may be, by March 31 of the next year.

6. If one detachment provides police services under section 5.1 of the Act to more than one municipality, the OPP shall allocate the costs of the detachment, as determined under section 2, to each municipality in accordance with the proportion of the total services provided by the detachment that are provided to the municipality.

7. This Regulation comes into force on January 1, 1998 and is applicable to police services provided under section 5.1 of the Act commencing on that date.

4. (1) La municipalité paie au ministre des Finances le montant indiqué dans l'estimation par versements trimestriels, soit le 31 mars, le 30 juin, le 30 septembre et le 31 décembre de chaque année.

(2) Les intérêts moratoires sont calculés au taux d'escompte, au sens du paragraphe 127 (1) de la *Loi sur les tribunaux judiciaires*, qui est en vigueur à la fin du premier jour du dernier mois du trimestre précédant le trimestre à l'égard duquel un paiement est en retard, arrondi au dixième près d'un point de pourcentage.

5. (1) Après la fin de l'année civile, la Police provinciale détermine le montant réel que doit la municipalité pour cette année-là.

(2) Si le montant réel que doit la municipalité est inférieur au montant estimatif, la différence est soustraite du montant estimatif imputé à la municipalité pour le premier trimestre de l'année suivante.

(3) Si le montant réel que doit la municipalité est supérieur au montant estimatif, la différence est ajoutée au montant estimatif imputé à la municipalité pour le premier trimestre de l'année suivante.

(4) Si la Police provinciale n'offre pas à la municipalité de services policiers aux termes de l'article 5.1 de la Loi au cours du premier trimestre de l'année suivante, tout montant dû à la municipalité aux termes du paragraphe (2) ou à la Police provinciale aux termes du paragraphe (3) est versé à la municipalité ou au ministre des Finances, selon le cas, au plus tard le 31 mars de cette année-là.

6. Si un détachement offre des services policiers aux termes de l'article 5.1 de la Loi à plus d'une municipalité, la Police provinciale impute à chaque municipalité les coûts engagés par le détachement, déterminés aux termes de l'article 2, suivant la proportion de la totalité des services offerts par le détachement que représente les services offerts à la municipalité.

7. Le présent règlement entre en vigueur le 1^{er} janvier 1998 et s'applique aux services policiers offerts aux termes de l'article 5.1 de la Loi à compter de cette date.

50/97

ONTARIO REGULATION 421/97 made under the POLICE SERVICES ACT

Made: November 27, 1997
Filed: November 27, 1997

MEMBERS OF POLICE SERVICES BOARD— CODE OF CONDUCT

1. Board members shall attend and actively participate in all board meetings.

2. Board members shall not interfere with the police force's operational decisions and responsibilities or with the day-to-day operation of the police force, including the recruitment and promotion of police officers.

3. Board members shall undergo any training that may be provided or required for them by the Solicitor General.

4. Board members shall keep confidential any information disclosed or discussed at a meeting of the board, or part of a meeting of the board, that was closed to the public.

5. No board member shall purport to speak on behalf of the board unless he or she is authorized by the board to do so.

6. A board member who expresses disagreement with a decision of the board shall make it clear that he or she is expressing a personal opinion.

7. Board members shall discharge their duties loyally, faithfully, impartially and according to the Act, any other Act and any regulation, rule or by-law, as provided in their oath or affirmation of office.

8. Board members shall uphold the letter and spirit of the Code of Conduct set out in this Regulation and shall discharge their duties in a manner that will inspire public confidence in the abilities and integrity of the board.

9. Board members shall discharge their duties in a manner that respects the dignity of individuals and in accordance with the *Human Rights Code* and the *Charter of Rights and Freedoms* (Canada).

10. Board members shall not use their office to advance their interests or the interests of any person or organization with whom or with which they are associated.

11. (1) Board members shall not use their office to obtain employment with the board or the police force for themselves or their family member.

(2) For the purpose of subsection (1), "family member" means the parent, spouse or child of the person, as those terms are defined in section 1 of the *Municipal Conflict of Interest Act*.

12. A board member who applies for employment with the police force, including employment on contract or on fee for service, shall immediately resign from the board.

13. Board members shall refrain from engaging in conduct that would discredit or compromise the integrity of the board or the police force.

14. A board member whose conduct or performance is being investigated or inquired into by the Commission under section 25 of the Act shall decline to exercise his or her duties as a member of the board for the duration of the investigation or inquiry.

15. If the board determines that a board member has breached the Code of Conduct set out in this Regulation, the board shall record that determination in its minutes and may,

- (a) require the member to appear before the board and be reprimanded;
- (b) request that the Ministry of the Solicitor General conduct an investigation into the member's conduct; or
- (c) request that the Commission conduct an investigation into the member's conduct under section 25 of the Act.

50/97

ONTARIO REGULATION 422/97
made under the
ONTARIO MUNICIPAL EMPLOYEES
RETIREMENT SYSTEM ACT

Made: November 27, 1997

Filed: November 27, 1997

Amending Reg. 890 of R.R.O. 1990
(General)

Note: Regulation 890 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Subsection 11.1 (2) of Regulation 890 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

(2) Despite subsection 10 (2.1), the Board, on the advice of its actuary, shall decrease equally the rates of contribution under subsections 10 (2.1) and 11 (1) if,

- (a) an actuarial valuation made under subsection 7 (1) of the Act and filed with the Superintendent under the *Pension Benefits Act* reveals a surplus; and
- (b) in the opinion of the Board, the surplus is sufficient to,
 - (i) permit a decrease in the contributions to the Fund, and
 - (ii) provide a reserve to avoid a future going concern unfunded liability or solvency deficiency, both as defined in Regulation 909 of the Revised Regulations of Ontario, 1990 made under the *Pension Benefits Act*.

(3) A decrease in contribution rates under subsection (2) is effective for such period or periods of time as may be determined by the Board.

2. Subsections 14 (9) and (11) of the Regulation are revoked and the following substituted:

(9) Despite subsections (4) and (7), if on December 1, 1997 a member was entitled to a disability benefit under subsection (3) and on January 1, 1998 continues to be so entitled, the member's deemed annual rate of contributory earnings referred to in clause (4) (a) and deemed Year's Maximum Pensionable Earnings referred to in clause (4) (b) shall be increased on January 1, 1998 by the 1997 inflation catch-up adjustment as defined in subsection 22 (2).

(11) Despite subsections (4) and (7), if on December 1, 1997 a member was entitled to a disability benefit under subsection (3) and on January 1, 1998 the member is entitled to a pension or a deferred pension or the member's spouse or children are entitled to a pension in respect of the deceased member, the pension shall be increased on January 1, 1998 by the 1997 inflation catch-up adjustment, as defined in subsection 22 (2), using the date the member became entitled to a disability benefit as the commencement date of the pension or deferred pension to be increased by the inflation adjustment.

3. (1) Clause 15 (2) (a) of the Regulation is amended by striking out "60 per cent" in the first line and substituting "66 2/3 per cent" and by striking out "one-sixth" in the fourth line and substituting "one-eighth".

(2) Subclause 15 (2) (b) (i) of the Regulation is amended by striking out "60 per cent" and substituting "66 2/3 per cent".

4. (1) Subsection 15.1 (2) of the Regulation is amended by,

- (a) striking out "60 per cent" in the first line of clause (a) and substituting "66 2/3 per cent"; and
- (b) striking out "one-sixth" in clause (b) and substituting "one-eighth".

(2) Clause 15.1 (3) (a) of the Regulation is amended by striking out "60 per cent" in the first line and substituting "66 2/3 per cent".

5. Subsection 15.2 (14) of the Regulation is amended by striking out "the first day of January, 1988" in the second line, in the fourth line and in the seventh and eighth lines and substituting in each case "January 1, 1998".

6. Subsections 16 (8) and (9) of the Regulation are revoked and the following substituted:

(8) Despite subsection (3), if on December 1, 1997 a member was entitled to a deferred pension and on January 1, 1998 continues to be so entitled, the deferred pension of the member shall be increased on January 1, 1998 by the 1997 inflation catch-up adjustment as defined in subsection 22 (2).

(9) Despite subsection (3), if on December 1, 1997 a member was entitled to a deferred pension and on January 1, 1998 the member is entitled to a pension or the member's spouse or children are entitled to a pension in respect of the deceased member, the pension shall be increased on January 1, 1998 by the 1997 inflation catch-up adjustment, as defined in subsection 22 (2), that would have been applicable had the member continued to be entitled to a deferred pension on January 1, 1998.

7. (1) Section 17 of the Regulation is amended by adding the following subsections:

(5.2) Despite subsection (5), from January 1, 1998 until December 31, 2002 and subject to the *Income Tax Act* (Canada), if a member retires on or after November 30, 1997, the annual amount of early retirement pension payable to a member under this section is the annual amount of pension calculated under section 13 if, at the date of the early retirement,

- (a) the sum of the member's age, counted in full years and months, plus credited service and eligible service, counted in full years and months, equals,
 - (i) in the case of a member whose normal retirement age is 65 years, at least 85 years; or
 - (ii) in the case of a member whose normal retirement age is 60 years, a sum of at least 80 years; or
- (b) the sum of the member's credited service and eligible service counted in full years and months equals at least 30 years.

(7.1) Despite subsection (7), from January 1, 1998 until December 31, 2002 and subject to the *Income Tax Act* (Canada), if a member retires on or after November 30, 1997 and if at the date of early retirement the member is not eligible to receive an early retirement pension under subsection (5), the annual amount of early retirement pension payable to the member under this section is the annual amount of pension calculated under section 13 reduced at the rate of 2 1/2 per cent multiplied by the least of,

- (a) the number of full years and months by which the member's age is less than the member's normal retirement age, on the date the early retirement pension is to commence;
- (b) 85, in the case of a member whose normal retirement age is 65 years or 80, in the case of a member whose normal retirement age is 60 years, minus the sum of the member's credited service and the member's age, in full years and months on the date the member's early retirement pension is to commence; and
- (c) the number of full years and months by which the sum of the member's credited service is less than 30 years, on the date the member's early retirement pension is to commence.

8. Subsection 21 (1.4) of the Regulation is revoked and the following substituted:

(1.4) Despite subsection (1.1), the inflation adjustment for 1998 is 100 per cent of the inflation increase for that year.

9. Section 22 of the Regulation is revoked and the following substituted:

22. (1) In this section,

"inflation increase" means the percentage increase of the September, 1997 Consumer Price Index for Canada over,

- (a) if a pension was payable on December 1, 1997, the Consumer Price Index for Canada for the month in which the person's pension commenced;
- (b) despite clause (a), if a pension was payable on December 1, 1997 in respect of a deceased person to a spouse or child of that person, the Consumer Price Index for Canada for the earlier of the month in which the spouse's or child's pension commenced or the month in which the deceased person's pension had commenced, as the case may be;
- (c) if a member was entitled to a deferred pension on December 1, 1997 under section 16, the Consumer Price Index for Canada for the month in which the member became so entitled; or
- (d) if a member was entitled to a disability benefit on December 1, 1997 under subsection 14 (3), the Consumer Price Index for Canada for the month in which the member became so entitled.

(2) For the purposes of this section, the 1997 inflation catch-up adjustment with respect to any person is 100 per cent of the inflation increase minus the total per cent increase to December 31, 1997 under section 14, 16 or 21 applicable to a pension or deferred pension or in respect of a disability benefit under section 14 payable to that person.

(3) The 1997 inflation catch-up adjustment shall not be less than zero.

(4) Despite subsection (1), for the purposes of subsections 14 (9) and (11), the inflation increase shall equal the lesser of the inflation increase under subsection (1) and the percentage increase in the monthly average of the average weekly wages and salaries of the Industrial Aggregate in Canada as published by Statistics Canada, for the same period as the inflation increase under subsection (1).

(5) The pension payable to a person during his or her lifetime shall be determined in accordance with this Regulation or a predecessor of this Regulation in force at the commencement of the pension to the person and,

- (a) if a pension is payable to a person on January 1, 1998, the pension payable on that date shall be increased by the 1997 inflation catch-up adjustment described in subsection (2); and
- (b) if a person who would have been entitled to an increase under clause (a) dies before January 1, 1998, the pension payable in respect of that deceased person to another person or persons on January 1, 1998 shall be increased on that date by the 1997 inflation catch-up adjustment that would have applied under clause (a) in respect of the deceased person had he or she not died.

10. This Regulation comes into force on January 1, 1998.

50/97

ONTARIO REGULATION 423/97 made under the MUNICIPAL ELECTIONS ACT, 1996

Made: November 26, 1997

Filed: November 27, 1997

CITY OF TORONTO—1997 RECOUNTS

1. (1) The council of the City of Toronto incorporated under the *City of Toronto Act, 1997* may, on or before February 2, 1998 pass a resolution under clause 57 (1) (a) of the Act requiring a recount of votes cast in the 1997 regular election,

- (a) for all or specified candidates for an office on the council;
- (b) for all or specified answers to a question submitted by the council of the Borough of East York, the City of Etobicoke, the City of North York, the City of Scarborough, the City of Toronto or the City of York;
- (c) for and against a by-law submitted by the council of the Borough of East York, the City of Etobicoke, the City of North York, the City of Scarborough, the City of Toronto or the City of York.

(2) The councils of the Borough of East York, the City of Etobicoke, the City of North York, the City of Scarborough, the City of Toronto or the City of York shall not pass a resolution under clause 57 (10) (a) of the Act with respect to the election described in subsection (1).

(3) The last date an application for a recount under section 58 of the Act may be made to the Ontario Court (General Division) with respect to an election described in subsection (1) is extended to February 2, 1998.

2. Commencing January 1, 1998, the clerk of the City of Toronto incorporated under the *City of Toronto Act, 1997* is responsible for conducting all remaining aspects of the 1997 regular elections held in the geographic area of the City of Toronto.

3. An application for a compliance audit under section 81 of the Act with respect to a candidate for office on the council of the City of Toronto incorporated under the *City of Toronto Act, 1997* may not be made by an elector before January 1, 1998.

4. This Regulation shall be deemed to have come into force on November 10, 1997.

AL LEACH
Minister of Municipal Affairs and Housing

Dated on November 26, 1997.

50/97

ONTARIO REGULATION 424/97 made under the HIGHWAY TRAFFIC ACT

Made: November 27, 1997
Filed: November 28, 1997

COMMERCIAL VEHICLE OPERATOR'S REGISTRATION CERTIFICATES

1. (1) In this Regulation,

"commercial motor vehicle", "CVOR certificate" and "operator" have the same meanings as in subsection 16 (1) of the Act.

(2) In this Regulation and for the purpose of subsection 18 (2) of the Act,

"fleet size" means the total number of commercial motor vehicles operated in Ontario in a specified period by a holder of a CVOR certificate, reduced by the percentage of the total distance travelled by those commercial motor vehicles in that period that was outside Ontario.

2. An application for a CVOR certificate shall be in a form provided by the Minister.

3. The Registrar may issue a CVOR certificate subject to an expiry date.

4. The following fees shall be paid to the Ministry for:

| | |
|---|---------|
| 1. An uncertified copy of an operator's CVOR record | \$ 5.00 |
| 2. A certified copy of an operator's CVOR record | 10.00 |

5. The safety record of an operator shall contain:

1. Any suspension or cancellation of the plate portion of the permit under clause 47 (1) (a) of the Act.

2. Any suspension or cancellation of the operator's CVOR certificate under clause 47 (1) (c) of the Act.

3. Any restriction imposed under subsection 47 (2) of the Act on the number of commercial motor vehicles that may be operated by the operator.

4. Any seizure under subsection 47 (10) of the Act of a permit or number plate issued by another jurisdiction.

5. Any notice sent to the operator under section 47.1 of the Act.

6. The particulars of any accident involving a commercial motor vehicle operated by the operator, or involving a vehicle drawn by a commercial motor vehicle operated by the operator.

7. The results of any inspection under section 82 or 82.1 of the Act of a commercial motor vehicle operated by the operator or of a vehicle drawn by a commercial motor vehicle operated by the operator, and reported to the Registrar.

8. Any conviction related to the operation of a commercial motor vehicle or the drawing of a vehicle by a commercial motor vehicle, that is reported to the Registrar under section 210 of the Act.

9. The results of any investigation or review of the operator under the Act, the *Compulsory Automobile Insurance Act*, the *Dangerous Goods Transportation Act*, the *Public Vehicles Act*, the *Truck Transportation Act* or the *Motor Vehicle Transport Act* (Canada), that are reported to the Registrar.

10. Any action taken by another jurisdiction against the operator that is comparable to that described in any of paragraphs 1 to 9, if the Registrar receives notice of the action.

11. Any warning letters sent by, or interviews held with, Ministry officials before any action is taken under section 47 of the Act.

12. The operator's last recorded fleet size.

13. The total number of kilometres travelled in the previous 12 months by all the commercial motor vehicles operated by the operator in Ontario.

14. The total number of kilometres travelled in Ontario in the previous 12 months by all the commercial motor vehicles operated by the operator.

15. Any compilations or analyses of any of the information described in paragraphs 1 to 14.

6. (1) Every holder of a CVOR certificate shall notify the Registrar of the holder's fleet size for the previous 12 months,

(a) within 15 days of the day the holder's fleet size is 20 per cent greater or less than it was when the fleet size was last reported to the Registrar;

(b) within 15 days of receiving a request from the Registrar for the information.

(2) The holder of a CVOR certificate shall, upon request, give the Registrar documentation to support the holder's fleet size determination.

7. (1) Every holder of a CVOR certificate shall, within 15 days of receiving a request from the Registrar, notify the Registrar of the total number of kilometres travelled by all the commercial motor vehicles operated by the holder in Ontario in the previous 12 months.

(2) Every holder of a CVOR certificate shall, within 15 days of receiving a request from the Registrar, notify the Registrar of the total number of kilometres travelled in Ontario by all the commercial motor vehicles operated by the holder in the previous 12 months.

(3) The holder of a CVOR certificate shall, upon request, give the Registrar documentation to support the holder's determination of the number of kilometres travelled under subsection (1) or (2).

8. Regulation 576 of the Revised Regulations of Ontario, 1990 and Ontario Regulation 354/96 are revoked.

9. This Regulation comes into force on the day on which section 6 of the Road Safety Act, 1996 (No. 2) comes into force.

50/97

ONTARIO REGULATION 425/97
made under the
GAME AND FISH ACT

Made: November 27, 1997
Filed: November 28, 1997

Amending Reg. 492 of R.R.O. 1990
(Furs)

Note: Since January 1, 1997, Regulation 492 has been amended by Ontario Regulation 342/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 2 of Regulation 492 of the Revised Regulations of Ontario, 1990 is amended by adding the following subsections:

(4) Despite subsections (1) and (3), a Nishnawbe-Aski First Nation fur harvesters licence to sell pelts and carcasses and a Trappers Authority issued by Grand Council Treaty #3 Trapping Resource Centre are deemed to be licences to hunt or trap or attempt to trap fur-bearing animals, until August 31, 1998.

(5) No fee is payable for a licence mentioned in subsection (4).

(6) Except as provided in this section, this Regulation applies with respect to a licence mentioned in subsection (4) as if it were a licence in Form 1.

50/97

ONTARIO REGULATION 426/97
made under the
MUNICIPAL ACT

Made: November 27, 1997
Filed: November 28, 1997

Amending O. Reg. 143/96
(Powers of the Minister or a Commission for the
Implementation of a Restructuring Proposal)

Note: Since January 1, 1997, Ontario Regulation 143/96 has been amended by Ontario Regulations 76/97, 134/97 and 241/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Subsection 14 (2) of Ontario Regulation 143/96 is revoked and the following substituted:

(2) The members of an interim council shall be determined,

RÈGLEMENT DE L'ONTARIO 425/97
pris en application de la
LOI SUR LA CHASSE ET LA PÊCHE

pris le 27 novembre 1997
déposé le 28 novembre 1997

modifiant le Règl. 492 des R.R.O. de 1990
(Fourrures)

Remarque : Depuis le 1^{er} janvier 1997, le Règlement 492 a été modifié par le Règlement de l'Ontario 342/97. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. L'article 2 du Règlement 492 des Règlements refondus de l'Ontario de 1990 est modifié par adjonction des paragraphes suivants :

(4) Malgré les paragraphes (1) et (3), le permis de capture d'animaux à fourrure de la Première nation Nishnawbe-Aski à des fins de vente de peaux et de carcasses et l'autorisation de piégeage délivrée par le centre de ressources dans le domaine du piégeage du Grand conseil visé par le Traité n° 3 sont réputés, jusqu'au 31 août 1998, des permis autorisant à chasser, à piéger ou à essayer de piéger des animaux à fourrure.

(5) Aucun droit n'est exigible à l'égard du permis visé au paragraphe (4).

(6) Sous réserve du présent article, le présent règlement s'applique à l'égard du permis visé au paragraphe (4) comme s'il s'agissait d'un permis rédigé selon la formule 1.

RÈGLEMENT DE L'ONTARIO 426/97
pris en application de la
LOI SUR LES MUNICIPALITÉS

pris le 27 novembre 1997
déposé le 28 novembre 1997

modifiant le Règl. de l'Ont. 143/96
(Pouvoirs du ministère ou d'une commission visant la mise
en œuvre d'une proposition de restructuration)

Remarque : Depuis le 1^{er} janvier 1997, le Règlement de l'Ontario 143/96 a été modifié par les Règlements de l'Ontario 76/97, 134/97 et 241/97. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. Le paragraphe 14 (2) du Règlement de l'Ontario 143/96 est abrogé et remplacé par ce qui suit :

(2) Les membres du conseil intérimaire se déterminent, selon le cas :

- (a) by holding a by-election under section 65 of the *Municipal Elections Act, 1996*, but no such by-election shall be held in a regular municipal election year; or
- (b) by designating members of the councils of the municipalities any part of which existed in the locality before the restructuring proposal comes into effect.

(2.1) In the case of a restructuring proposal to annex unorganized territory to a municipality, the members of an interim council shall be determined,

- (a) by holding a by-election under section 65 of the *Municipal Elections Act, 1996*, but no such by-election shall be held in a regular municipal election year;
- (b) by designating members of the councils of the municipalities any part of which existed in the locality before the restructuring proposal comes into effect;
- (c) by holding a special election to determine the members of the council elected from the unorganized territory within the locality before the restructuring proposal comes into effect in accordance with the procedure set out in section 14.1; or
- (d) by a combination of the methods described in clauses (b) and (c).

(2.2) The members of an interim public utility commission shall be determined,

- (a) by holding a by-election under section 65 of the *Municipal Elections Act, 1996*, but no such by-election shall be held in a regular municipal election year; or
- (b) by designating members of the public utility commissions any part of which existed in the locality before the restructuring proposal comes into effect.

2. Ontario Regulation 143/96 is amended by adding the following section:

14.1 (1) In the case of a restructuring proposal to annex unorganized territory to a municipality, a special election to determine the members of the council elected from the unorganized territory within the locality before the restructuring proposal comes into effect shall be held in accordance with this section.

(2) A person is eligible to vote in the special election if he or she is a Canadian citizen, at least 18 years old and,

- (a) a permanent resident of the unorganized territory;
- (b) an owner or tenant of property in the unorganized territory; or
- (c) the spouse of an owner or tenant of property in the unorganized territory.

(3) A person may be nominated for office in the special election if he or she is a qualified elector under section 17 of the *Municipal Elections Act, 1996* and is not disqualified from holding the office under any Act.

(4) The following procedure shall be followed for the special election:

1. The clerk of the municipality with the greatest number of electors of the municipalities, any part of which existed in the locality before the restructuring proposal comes into effect, shall be responsible for conducting the special election.

- a) par la tenue d'une élection partielle aux termes de l'article 65 de la *Loi de 1996 sur les élections municipales*, une telle élection ne devant toutefois pas être tenue au cours d'une année d'élection municipale ordinaire;
- b) par la désignation de membres des conseils des municipalités dont n'importe quelle partie se trouvait dans la localité avant l'entrée en vigueur de la proposition de restructuration.

(2.1) Dans le cas d'une proposition de restructuration visant à annexer un territoire non érigé en municipalité à une municipalité, les membres du conseil intérimaire se déterminent, selon le cas :

- a) par la tenue d'une élection partielle aux termes de l'article 65 de la *Loi de 1996 sur les élections municipales*, une telle élection ne devant toutefois pas être tenue au cours d'une année d'élection municipale ordinaire;
- b) par la désignation de membres des conseils des municipalités dont n'importe quelle partie se trouvait dans la localité avant l'entrée en vigueur de la proposition de restructuration;
- c) par la tenue d'une élection spéciale, conformément aux modalités énoncées à l'article 14.1, pour déterminer les membres du conseil élus dans le territoire non érigé en municipalité qui était situé dans la localité avant l'entrée en vigueur de la proposition de restructuration;
- d) par une combinaison des méthodes visées aux alinéas b) et c).

(2.2) Les membres d'une commission de services publics intérimaire se déterminent par l'une ou l'autre des méthodes suivantes :

- a) la tenue d'une élection partielle aux termes de l'article 65 de la *Loi de 1996 sur les élections municipales*, une telle élection ne devant toutefois pas être tenue au cours d'une année d'élection municipale ordinaire;
- b) la désignation de membres des commissions de services publics dont relevait n'importe quelle partie de la localité avant l'entrée en vigueur de la proposition de restructuration.

2. Le Règlement est modifié par adjonction de l'article suivant :

14.1 (1) Dans le cas d'une proposition de restructuration visant à annexer un territoire non érigé en municipalité à une municipalité, une élection spéciale est tenue conformément au présent article pour déterminer les membres du conseil élus dans le territoire non érigé en municipalité qui était situé dans la localité avant l'entrée en vigueur de la proposition de restructuration.

(2) Est habile à voter à une élection spéciale quiconque est citoyen canadien, est âgé d'au moins 18 ans et est, selon le cas :

- a) résident permanent du territoire non érigé en municipalité;
- b) propriétaire ou locataire d'un bien situé dans le territoire non érigé en municipalité;
- c) le conjoint d'un propriétaire ou locataire d'un bien situé dans le territoire non érigé en municipalité.

(3) Peut être déclarée candidate à un poste lors de l'élection spéciale la personne qui a qualité d'électeur aux termes de l'article 17 de la *Loi de 1996 sur les élections municipales* et qui n'est pas inhabile à occuper le poste en question aux termes de toute loi.

(4) L'élection spéciale se tient selon les modalités suivantes :

1. Le secrétaire de la municipalité qui compte le plus grand nombre d'électeurs des municipalités, dont n'importe quelle partie se trouvait dans la localité avant l'entrée en vigueur de la proposition de restructuration, est chargé de la tenue de l'élection spéciale.

2. Nomination day for the special election must be at least 14 days before voting day.
 3. At least 14 days before nomination day, the clerk shall give notice of the offices for which persons may be nominated and of the nomination procedure as set out in this subsection.
 4. A person may be nominated for an office by filing a nomination in the clerk's office.
 5. If, after the close of nomination day, the number of candidates for an office is the same or less than the number to be elected, the clerk shall declare the candidate or candidates elected by acclamation.
 6. If any office remains vacant after the close of nomination day, section 45 of the Act applies if the number of members on council is sufficient to form a quorum.
 7. The clerk shall call a meeting for the purpose of conducting a vote for the special election.
 8. The meeting must be held in the unorganized territory or in an adjacent local municipality.
 9. The clerk must give at least 14 days notice of the meeting,
 - i. by publication in a newspaper that, in the opinion of the clerk, is of general circulation throughout the unorganized territory, or
 - ii. if the clerk is of the opinion that there is no such newspaper, by any other means which, in the opinion of the clerk, will give the persons who are eligible to vote adequate notice of the meeting.
 10. The notice of the meeting must set out,
 - i. the purpose of the meeting,
 - ii. where and when the meeting will be held, and
 - iii. a description of who may vote at the meeting.
 11. The meeting shall be chaired by the clerk.
 12. The clerk shall conduct a vote by the persons who attend the meeting to determine the members of the council elected from the unorganized territory. The clerk shall determine how to conduct the vote. The clerk shall record the results of the vote and the number of votes cast.
 13. The clerk shall announce the results of the vote. If two or more candidates who cannot both or all be declared elected to an office have received the same number of votes, the clerk shall choose the successful candidate or candidates by lot.
 14. The clerk shall retain the ballots and all other documents and materials related to the election until the successors of the persons elected at the special election held under this section have taken office.
- (5) The costs incurred in conducting the special election by the clerk of the municipality with the greatest number of electors shall be paid by that municipality.
- (6) The municipality with the greatest number of electors shall pay the costs as soon as possible after its clerk has signed a certificate verifying the amount.
2. Le jour de la déclaration de candidature pour l'élection spéciale est au moins 14 jours avant le jour du scrutin.
 3. Au moins 14 jours avant le jour de la déclaration de candidature, le secrétaire donne un avis précisant les postes auxquels des personnes peuvent être déclarées candidates et les modalités de déclaration de candidature énoncées au présent paragraphe.
 4. Une personne peut être déclarée candidate à un poste en déposant une déclaration de candidature au bureau du secrétaire.
 5. Si, après la clôture du dépôt des déclarations de candidature le nombre de candidats à un poste est égal ou inférieur au nombre de candidats devant être élus à ce poste, le secrétaire déclare le ou les candidats élus sans concurrent.
 6. Si, après la clôture du dépôt des déclarations de candidature, un poste demeure vacant, l'article 45 de la Loi s'applique si le nombre de membres du conseil est suffisant pour atteindre le quorum.
 7. Le secrétaire convoque une réunion dans le but de tenir un vote aux fins de l'élection spéciale.
 8. La réunion se tient dans le territoire non érigé en municipalité ou dans une municipalité locale adjacente.
 9. Le secrétaire donne un avis de convocation de la réunion d'au moins 14 jours :
 - i. soit par publication dans un journal qui, selon lui, est généralement lu dans le territoire non érigé en municipalité,
 - ii. soit, s'il est d'avis qu'un tel journal n'existe pas, de toute autre manière qui, selon lui, donnera un avis de convocation adéquat aux personnes habiles à voter.
 10. Sont énoncés dans l'avis de convocation de la réunion :
 - i. l'objet de la réunion,
 - ii. les lieu, date et heure de la réunion,
 - iii. une description des personnes habiles à voter lors de la réunion.
 11. Le secrétaire préside la réunion.
 12. Le secrétaire tient un vote auprès des personnes présentes à la réunion afin de déterminer les membres du conseil élus dans le territoire non érigé en municipalité. Il détermine comment tenir le vote. Il consigne les résultats du vote et le nombre de suffrages exprimés.
 13. Le secrétaire annonce les résultats du vote. Si deux candidats ou plus qui ne peuvent être tous deux ou tous déclarés élus à un poste ont reçu le même nombre de suffrages, il choisit par tirage au sort le ou les candidats qui l'emportent.
 14. Le secrétaire garde les bulletins de vote ainsi que tout le matériel et tous les autres documents relatifs à l'élection jusqu'à ce que les successeurs des personnes élues lors de l'élection spéciale tenue aux termes du présent article soient entrées en fonction.
- (5) Les frais engagés pour la tenue de l'élection spéciale par le secrétaire de la municipalité qui compte le plus grand nombre d'électeurs sont payés par cette municipalité.
- (6) La municipalité qui compte le plus grand nombre d'électeurs paie les frais aussitôt que possible après que son secrétaire a signé un certificat en attestant le montant.

ONTARIO REGULATION 427/97
made under the
COURTS OF JUSTICE ACT

Made: November 14, 1997
Approved: November 27, 1997
Filed: November 28, 1997

Amending Reg. 194 of R.R.O. 1990
(Rules of Civil Procedure)

Note: Since January 1, 1997, Regulation 194 has been amended by Ontario Regulations 118/97 and 348/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Rule 69.24 of Regulation 194 of the Revised Regulations of Ontario, 1990 is amended by adding the following subrules:

Assigned Support Order

(6.1) In an application under subrule (1) in respect of a support order that has at any time been assigned in accordance with subsection 20.1 (1) or its predecessor of the Act,

- (a) the applicant shall also serve the assignee of the support order with the applicant's notice of application, affidavit in support and financial statement; and
- (b) the respondent shall also serve the assignee with the respondent's notice of appearance, responding affidavit and financial statement.

(6.2) On delivering a notice of appearance, the assignee becomes a respondent to the extent of its financial interest.

(6.3) The assignee is not required to serve a financial statement.

(6.4) If the applicant does not serve the assignee as required by subrule (6.1), the court may at any time, on motion by the assignee on notice to the parties to the application, set aside an order made in the application so far as it deals with an issue in which the assignee has a financial interest.

(6.5) On a motion referred to in subrule (6.4), the burden of proving that the order should not be set aside is on the party who asked for the variation order.

(6.6) If the order made in the application is set aside, the assignee of the support order is entitled to solicitor and client costs of the motion to set aside, unless the court orders otherwise.

(2) Subrule 69.24 (7) of the Regulation is amended by striking out "and" at the end of clause (f) and by adding the following clause:

- (f.1) in an application to vary a support order, whether the support order was assigned and any particulars of the assignment known to the applicant; and

2. Rule 70 of the Regulation is amended by adding the following rule:

VARIATION APPLICATION

70.08.1 Rule 69.24 (variation of final order) applies, with necessary modifications, in respect of a support order made under the *Family Law Act* or the *Reciprocal Enforcement of Support Orders Act* or a custody or access order under the *Children's Law Reform Act*.

RÈGLEMENT DE L'ONTARIO 427/97
pris en application de la
LOI SUR LES TRIBUNAUX JUDICIAIRES

pris le 14 novembre 1997
approuvé le 27 novembre 1997
déposé le 28 novembre 1997

modifiant le Règl. 194 des R.R.O. de 1990
(Règles de procédure civile)

Remarque : Depuis le 1^{er} janvier 1997, le Règlement 194 a été modifié par les Règlements de l'Ontario 118/97 et 348/97. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. (1) La règle 69.24 du Règlement 194 des Règlements refondus de l'Ontario de 1990 est modifiée par adjonction des paragraphes suivants :

Ordonnance alimentaire cédée

(6.1) Lors d'une requête visée au paragraphe (1) relativement à une ordonnance alimentaire qui a été cédée à un moment quelconque conformément au paragraphe 20.1 (1) de la Loi ou à une disposition que celui-ci remplace :

- a) d'une part, le requérant signifie également au cessionnaire de l'ordonnance alimentaire son avis de requête, un affidavit à l'appui et un état financier;
- b) d'autre part, l'intimé signifie également au cessionnaire son avis de comparution, un affidavit de défense et un état financier.

(6.2) Le cessionnaire qui remet un avis de comparution devient un intimé dans la mesure de son intérêt financier.

(6.3) Le cessionnaire n'est pas tenu de signifier un état financier.

(6.4) En l'absence de signification par le requérant au cessionnaire conformément au paragraphe (6.1), le tribunal peut, en tout temps, sur motion présentée par le cessionnaire avec préavis aux parties à la requête, annuler l'ordonnance rendue à l'égard de la requête dans la mesure où elle traite d'une question dans laquelle le cessionnaire a un intérêt financier.

(6.5) Dans le cadre d'une motion visée au paragraphe (6.4), le fardeau de prouver que l'ordonnance ne devrait pas être annulée revient à la partie qui a demandé l'ordonnance de modification.

(6.6) Si l'ordonnance rendue à l'égard de la requête est annulée, le cessionnaire de l'ordonnance alimentaire a droit aux dépens procureur-client afférents à la motion en annulation, sauf ordonnance contraire du tribunal.

(2) Le paragraphe 69.24 (7) du Règlement est modifié par adjonction de l'alinéa suivant :

- f.1) dans une requête visant à faire modifier une ordonnance alimentaire, si cette ordonnance a été cédée ou non et, dans l'affirmative, donne toutes précisions que le requérant connaît au sujet de la cession.

2. La Règle 70 du Règlement est modifiée par adjonction de la règle suivante :

REQUÊTE EN MODIFICATION

70.08.1 La règle 69.24 (modification d'une ordonnance définitive) s'applique, avec les adaptations nécessaires, à une ordonnance alimentaire qui a été rendue aux termes de la *Loi sur le droit de la famille* ou de la *Loi sur l'exécution réciproque d'ordonnances alimentaires* ou à une ordonnance accordant la garde d'un enfant ou le droit de visite qui a été rendue aux termes de la *Loi portant réforme du droit de l'enfance*.

ONTARIO REGULATION 428/97
made under the
COURTS OF JUSTICE ACT

Made: November 14, 1997
Approved: November 27, 1997
Filed: November 28, 1997

Amending Reg. 199 of R.R.O. 1990
(Rules of the Ontario Court (Provincial Division)
in Family Law Proceedings)

Note: Regulation 199 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Rule 57 of Regulation 199 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

57. (1) In this rule,

"originating document" means the application and notice of hearing in an application for a variation order or the answer in which a respondent asks for a variation order;

"responding document" means an answer in an application for a variation order or a reply to an answer in which a respondent asks for a variation order;

"variation application" means an application in which a party asks for a variation order;

"variation order" means an order that discharges, varies or suspends a custody or access order or current payments, arrears or interest under a support order.

(2) In a variation application, each party shall serve on every other party a financial statement in Form 6 and file it with proof of service.

(3) The originating document in a variation application shall set out,

(a) the place of ordinary residence of the parties and the children;

(b) the current marital status of the parties;

(c) particulars of the change in circumstances relied on;

(d) particulars of current custody and access arrangements and of any proposed change;

(e) particulars of current support arrangements and any proposed change;

(f) in an application to vary a support order, whether the support order was assigned and any particulars of the assignment known to the party asking for the variation order; and

(g) particulars of any efforts to mediate the matters in issue or of any assessment in relation to custody or access.

(4) In a variation application in respect of a support order that has at any time been assigned in accordance with subsection 34 (3) of the *Family Law Act* or its predecessor,

(a) the party asking for the variation order shall also serve the assignee of the support order with the party's originating document and financial statement; and

(b) the other party shall also serve the assignee with that party's responding document and financial statement.

(5) On serving the parties with a notice stating that it has a financial interest in the variation application and filing the notice with proof of service, the assignee becomes a respondent to the extent of its financial interest.

(6) The assignee is not required to serve a financial statement.

(7) If the party asking for the variation order does not serve the assignee as required by subrule (4), the court may at any time, on motion by the assignee on notice to the parties to the variation order, set aside the variation order so far as it deals with an issue in which the assignee has a financial interest.

(8) On a motion referred to subrule (7), the burden of proving that the variation order should not be set aside is on the party who asked for the variation order.

(9) If the variation order is set aside, the assignee of the support order is entitled to solicitor and client costs of the motion to set aside, unless the court orders otherwise.

2. (1) The English version of Form 5 of the Regulation is amended by adding at the end:

If a support order has been assigned to a government agency, an application to change past or future support payments must also be served on that agency. If the agency is not served, it can have the changed order set aside and ask for costs.

(2) The French version of Form 5 of the Regulation is amended by adding at the end:

Si une ordonnance alimentaire a été cédée à un organisme gouvernemental, il faut signifier à celui-ci toute requête visant à faire modifier des versements d'aliments passés ou à venir. Si l'organisme ne reçoit pas signification d'une telle requête, il peut demander l'annulation de l'ordonnance modifiée, ainsi que les dépens.

3. (1) The English version of Form 9 of the Regulation is amended by adding at the end of the last page:

If a support order has been assigned to a government agency, a claim asking for a change to past or future support payments must also be served on that agency. If the agency is not served, it can have the changed order set aside and ask for costs.

(2) The French version of Form 9 of the Regulation is amended by adding at the end of the last page:

Si une ordonnance alimentaire a été cédée à un organisme gouvernemental, il faut signifier à celui-ci toute demande visant à faire modifier des versements d'aliments passés ou à venir. Si l'organisme ne reçoit pas signification de la demande, il peut demander l'annulation de l'ordonnance modifiée, ainsi que les dépens.

ONTARIO REGULATION 429/97
made under the
COURTS OF JUSTICE ACT

Made: November 14, 1997
Approved: November 27, 1997
Filed: November 28, 1997

Amending Reg. 202 of R.R.O. 1990
(Family Court Rules)

Note: Regulation 202 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Rule 74 of Regulation 202 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

74. (1) In this rule,

"originating document" means the notice of motion and affidavit in support of a motion for a variation order, the application and notice of hearing in an application for a variation order or the answer in which a respondent asks for a variation order;

"responding document" means an affidavit in response to a motion for a variation order, an answer in an application for a variation order or a reply to an answer in which a respondent asks for a variation order;

"variation motion or application" means a motion or application in which a party asks for a variation order;

"variation order" means an order that discharges, varies or suspends a custody or access order or current payments, arrears or interest under a support order.

(2) In a variation motion or application, each party shall serve on every other party a financial statement in Form 9 and file it with proof of service.

(3) An affidavit in support of, or an originating document in, a variation motion or application shall set out,

- (a) the place of ordinary residence of the parties and the children;
- (b) the current marital status of the parties;
- (c) particulars of the change in circumstances relied on;
- (d) particulars of current custody and access arrangements and of any proposed change;
- (e) particulars of current support arrangements and any proposed change;
- (f) in a variation motion or application in respect of a support order, whether the support order was assigned and any particulars of the assignment known to the party asking for the variation order; and
- (g) particulars of any efforts to mediate the matters in issue or of any assessment in relation to custody or access.

(4) In a variation motion or application in respect of a support order that has at any time been assigned in accordance with subsection 20.1 (1) or its predecessor of the *Divorce Act* (Canada) or subsection 34 (3) of the *Family Law Act* or its predecessor,

(a) the party asking for the variation order shall also serve the assignee of the support order with the party's originating document and financial statement; and

(b) the other party shall also serve the assignee with that party's responding document and financial statement.

(5) On serving the parties with a notice stating that it has a financial interest in the variation motion or application and filing the notice with proof of service, the assignee becomes a responding party or respondent to the extent of its financial interest.

(6) The assignee is not required to serve a financial statement.

(7) If the party asking for the variation order does not serve the assignee as required by subrule (4), the court may at any time, on motion by the assignee on notice to the parties to the variation order, set aside the variation order so far as it deals with an issue in which the assignee has a financial interest.

(8) On a motion referred to in subrule (7), the burden of proving that the variation order should not be set aside is on the party who asked for the variation order.

(9) If the variation order is set aside, the assignee of the support order is entitled to solicitor and client costs of the motion to set aside, unless the court orders otherwise.

2. Form 8 of the Regulation is amended by adding the following at the end:

If a support order has been assigned to a government agency, an application to change past or future support payments must also be served on that agency. If the agency is not served, it can have the changed order set aside and ask for costs.

3. Form 13 of the Regulation is amended by adding the following at the end of page 2 (Claim by Respondent against Applicant):

If a support order has been assigned to a government agency, a claim asking for a change in past or future support payments must also be served on that agency. If the agency is not served, it can have the changed order set aside and ask for costs.

4. Form 18 of the Regulation is amended by adding the following before the date and signature line:

If a support order has been assigned to a government agency, a motion to change past or future support payments must also be served on that agency. If the agency is not served, it can have the changed order set aside and ask for costs.

50/97

ONTARIO REGULATION 430/97
made under the
ARCHITECTS ACT

Made: October 20, 1997
Approved: November 27, 1997
Filed: November 28, 1997

Amending Reg. 27 of R.R.O. 1990
(General)

Note: Regulation 27 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Sections 31 and 32 of Regulation 27 of the Revised Regulations of Ontario, 1990 are revoked and the following substituted:

31. For the purposes of clause 13 (1) (d) of the Act, the following are the academic and experience requirements for the issuance of a licence to a person:

1. The person must hold a degree in architecture from a post-secondary institution or must have successfully completed the Royal Architectural Institute of Canada Syllabus.
2. The person must hold a Certificate of Certification issued by the Canadian Architectural Certification Board.
3. The person must have completed the admission course offered by the Association.

4. The person must have successfully completed the Architect Registration Examination of the National Council of Architectural Registration Boards.

5. The person must have completed a total of 5600 hours of experience that meets the requirements of the Intern Architect Program published by the Association. The experience must include,

- i. at least 940 hours of experience in Ontario under the personal supervision and direction of a person licensed to engage in the practice of architecture in Ontario, which must be completed within the three years before the date on which the person applies for the licence, and
- ii. at least 2780 additional hours of experience under the personal supervision and direction of a person authorized to engage in the practice of architecture.

2. This Regulation comes into force on January 1, 1998.

COUNCIL OF THE ONTARIO ASSOCIATION OF ARCHITECTS:

JAMES J. NOWSKI
President

I. HILLEL ROEBUCK
Registrar

Dated on October 20, 1997.

50/97

ONTARIO REGULATION 431/97
made under the
HEALTH CARDS AND NUMBERS CONTROL ACT, 1991

Made: November 27, 1997
Filed: November 28, 1997

Amending O. Reg. 147/91
(General)

Note: Ontario Regulation 147/91 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Paragraph 2 of section 1 of Ontario Regulation 147/91 is revoked and the following substituted:

2. The Canadian Institute for Health Information.

(2) Section 1 of the Regulation is amended by adding the following paragraph:

7. Cancer Care Ontario.

50/97

RÈGLEMENT DE L'ONTARIO 431/97
pris en application de la
LOI DE 1991 SUR LE CONTRÔLE DES CARTES SANTÉ
ET DES NUMÉROS DE CARTES SANTÉ

pris le 27 novembre 1997
déposé le 28 novembre 1997

modifiant le Règl. de l'Ont. 147/91
(Disposition générale)

Remarque : Le Règlement de l'Ontario 147/91 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. (1) La disposition 2 de l'article 1 du Règlement de l'Ontario 147/91 est abrogée et remplacée par ce qui suit :

2. L'Institut canadien d'information sur la santé.

(2) L'article 1 du Règlement est modifié par adjonction de la disposition suivante :

7. La personne morale connue sous le nom de «Action Cancer Ontario».

Publications under the Regulations Act Publications en vertu de la Loi sur les règlements

1997—12—20

ONTARIO REGULATION 432/97 made under the HIGHWAY TRAFFIC ACT

Made: November 25, 1997

Filed: December 2, 1997

Amending Reg. 619 of R.R.O. 1990
(Speed Limits)

Note: Since January 1, 1997, Regulation 619 has been amended by Ontario Regulations 44/97, 115/97, 140/97, 141/97, 194/97, 208/97, 209/97, 327/97, 356/97 and 366/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Paragraph 6 of Part 3 of Schedule 11 of Regulation 619 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

Wellington—Twps. of Howick and Minto
Bruce—Twp. of Carrick

6. That part of the King's Highway known as No. 9 in the townships of Howick and Minto in the County of Wellington lying between a point situate 172 metres measured westerly from its intersection with the centre line of the roadway known as West Heritage Road (Wellington Road 1) and a point situate 494 metres measured easterly from the centre line of the roadway known as Vincent Street in the Township of Carrick in the County of Bruce.

(2) Part 5 of Schedule 11 to the Regulation is amended by adding the following paragraph:

Wellington—Twps. of Howick and Minto

8. That part of the King's Highway known as No. 9 in the townships of Howick and Minto in the County of Wellington lying between a point situate 172 metres measured westerly from its intersection with the centre line of the roadway known as West Heritage Road (Wellington Road 1) and extending easterly for a distance of 220 metres.

2. (1) Paragraph 24 of Part 2 of Schedule 21 to the Regulation is revoked and the following substituted:

District of Kenora—Town of Jaffray Melick
Twp. of Langton

24. That part of the King's Highway known as No. 17 in the Territorial District of Kenora lying between a point situate 230 metres measured westerly from its intersection with the King's Highway known as No. 647 in the Township of Langton and a point situate at the east limits of the Town of Jaffray Melick.

(2) Paragraph 21 of Part 5 of Schedule 21 to the Regulation is revoked.

3. Schedule 172 to the Regulation is revoked.

4. Schedule 174 to the Regulation is revoked.

5. Schedule 181 to the Regulation is revoked.

6. (1) Paragraph 1 of Part 3 of Schedule 236 to the Regulation is revoked and the following substituted:

District of Kenora—Town of Keewatin

1. That part of the King's Highway known as No. 596 in the Town of Keewatin in the Territorial District of Kenora beginning at a point situate at its intersection with the King's Highway known as No. 17A and extending northerly to a point situate at the north limits of the Town of Keewatin.

(2) Paragraph 1 of Part 6 of Schedule 236 to the Regulation is revoked.

7. (1) Part 5 of Schedule 256 to the Regulation is amended by adding the following paragraph:

District of Algoma—Twp. of White River

1. That part of the King's Highway known as No. 631 in the Territorial District of Algoma in the incorporated Township of White River beginning at a point situate 750 metres measured easterly from its intersection with the King's Highway known as No. 17 and extending easterly for a distance of 600 metres.

(2) Paragraph 2 of Part 6 of Schedule 256 to the Regulation is revoked and the following substituted:

District of Algoma—Twp. of White River

2. That part of the King's Highway known as No. 631 in the Territorial District of Algoma in the incorporated Township of White River beginning at a point situate at its intersection with the King's Highway known as No. 17 and extending easterly for a distance of 750 metres.

TONY P. CLEMENT
Minister of Transportation

Dated on November 25, 1997.

51/97

ONTARIO REGULATION 433/97
made under the
HIGHWAY TRAFFIC ACT

Made: November 25, 1997

Filed: December 2, 1997

Amending Reg. 630 of R.R.O. 1990
(Vehicles on Controlled-Access Highways)

Note: Since January 1997, Regulation 630 has been amended by Ontario Regulation 102/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Paragraph 1 of the Schedule to Regulation 630 of Revised Regulations of Ontario, 1990 is revoked and the following substituted:

1. All of the King's Highways known as No. 401, 402, 403, 404, 405, 407, 409, 410, 416, 417 and 427.

2. The Schedule to the Regulation is amended by adding the following paragraph:

33. That part of the King's Highway known as No. 400 in the City of North York in the Municipality of Metropolitan Toronto lying between a point situate at its intersection with the southerly limit of the structure over the roadway known as Maple Leaf Drive and a point situate at its intersection with the southerly limit of the roadway known as Muskoka Road 5 in the Township of Georgian Bay in the District Municipality of Muskoka.

TONY P. CLEMENT
Minister of Transportation

Dated on November 25, 1997.

51/97

ONTARIO REGULATION 434/97
made under the
HIGHWAY TRAFFIC ACT

Made: December 1, 1997

Filed: December 2, 1997

Amending Reg. 619 of R.R.O. 1990
(Speed Limits)

Note: Since January 1, 1997, Regulation 619 has been amended by Ontario Regulations 44/97, 115/97, 140/97, 141/97, 194/97, 208/97, 209/97, 327/97, 356/97, 366/97 and 432/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Paragraph 1 of Part 3 of Schedule 3 of Regulation 619 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

Middlesex—Township of London

1. That part of the King's Highway known as No. 4 in the Township of London in the County of Middlesex beginning at a point situate 460 metres measured southerly from its intersection with the southerly limit of the road allowance known as Medway Road (County Road 28) and extending southerly for a distance of 250 metres.

(2) Paragraph 1 of Part 5 of Schedule 3 to the Regulation is revoked and the following substituted:

Middlesex—Township of London

1. That part of the King's Highway known as No. 4 in the Township of London in the County of Middlesex lying between a point situate 460 metres measured southerly from its intersection with the southerly limit of the road allowance known as Medway Road (County Road 28) and a point situate 610 metres measured northerly from its intersection with the northerly limit of the said allowance.

2. (1) Paragraph 25 of Part 2 of Schedule 13 to the Regulation is revoked and the following substituted:

District of Parry Sound—Township of Strong
Village of South River

25. That part of the King's Highway known as No. 11 in the Territorial District of Parry Sound lying between a point situate 140 metres measured northerly from its intersection with the centre line of the roadway known as Basso Road in the Township of Strong and a point situate 910 metres measured southerly from its intersection with the centre line of the roadway known as Toronto Avenue in the Village of South River.

(2) Paragraph 33 of Part 2 of Schedule 13 to the Regulation is revoked and the following substituted:

District of Parry Sound—Twps. of Perry and Strong

33. That part of the King's Highway known as No. 11 in the Territorial District of Parry Sound lying between a point situate at its intersection with the northerly limit of the northerly junction of the King's Highway known as No. 518 in the Township of Perry and a point situate 620 metres measured southerly from its intersection with the centre line of the roadway known as Albert Street in the Township of Strong.

(3) Part 3 of Schedule 13 to the Regulation is amended by adding the following paragraph:

District of Parry Sound—Village of Sundridge
Twp. of Strong

19. That part of the King's Highway known as No. 11 in the Territorial District of Parry Sound lying between a point situate 620 metres measured northerly from its intersection with the centre line of the roadway known as Paget Street in the Village of Sundridge and a point situate 140 metres measured northerly from its intersection with the centre line of the roadway known as Basso Road in the Township of Strong.

(4) Paragraph 9 of Part 5 of Schedule 13 to the Regulation is revoked and the following substituted:

District of Parry Sound—Twp. of Strong
Village of Sundridge

9. That part of the King's Highway known as No. 11 in the Territorial District of Parry Sound lying between a point situate 620 metres measured southerly from its intersection with the centre line of the roadway known as Albert Street in the Township of Strong and a point situate 620 metres measured northerly from its intersection with the centre line of the roadway known as Paget Street in the Village of Sundridge.

3. (1) Paragraph 1 of Part 4 of Schedule 40 to the Regulation is revoked.

(2) Part 5 of Schedule 40 to the Regulation is amended by adding the following paragraph:

Haliburton—Twps. of Anson Hindon and Minden and Stanhope

3. That part of the King's Highway known as No. 35 in the County of Haliburton lying between a point situate 500 metres measured southerly from its intersection with the centre line of the King's Highway known as No. 118 in the Township of Anson Hindon and Minden and a point situate 1200 metres measured northerly from its intersection with the centre line of the King's Highway known as No. 118 in the Township of Stanhope.

TONY P. CLEMENT
Minister of Transportation

Dated on December 1, 1997.

51/97

ONTARIO REGULATION 435/97
made under the
PUBLIC SERVICE ACT

Made: November 7, 1997
Approved: November 19, 1997
Filed: December 3, 1997

RULES OF CONDUCT FOR PUBLIC SERVANTS

INTERPRETATION

1. In this Regulation,

"confidential information" means information that is not available to the public and that, if disclosed, could result in loss or harm to the Crown or could give the person to whom it is disclosed an advantage;

"gift" includes a benefit of any kind;

"independent commissioner" means the independent commissioner designated under the "Conflict of Interest and Post-Service Directive" made by the Management Board of Cabinet and dated June 25, 1997;

"integrity commissioner" means the integrity commissioner designated under the "Conflict of Interest and Post-Service Directive" made by the Management Board of Cabinet and dated June 25, 1997.

2. For the purposes of this Regulation, the following person is the designated official for a public servant:

1. For the Secretary of Cabinet, the Premier.
2. For a public servant employed in the Premier's Office or in a minister's office, the integrity commissioner.
3. For a deputy minister (other than the Secretary of Cabinet) or for a public servant employed in Cabinet Office, the Secretary of Cabinet.
4. For a public servant employed in the Privatization Secretariat, the integrity commissioner.

5. For a public servant employed in a ministry (other than one to whom paragraph 3 or 4 applies), the deputy minister of the ministry.

3. For the purposes of this Regulation, the following person is the designated third party for a public servant:

1. For deputy ministers, the independent commissioner.
2. For senior public servants who routinely work on privatization issues, the independent commissioner.
3. For other public servants, the person who is their designated official.

PROHIBITED CONDUCT

4. (1) A public servant shall not use or attempt to use his or her employment in the service of the Crown to directly or indirectly benefit himself or herself or his or her spouse or children.

(2) A public servant shall not allow the prospect of his or her future employment by a person or entity to detrimentally affect the performance of his or her duties to the Crown.

5. (1) A public servant shall not accept a gift from any of the following persons or entities if a reasonable person might conclude that the gift could influence the public servant when performing his or her duties to the Crown:

1. A person, group or entity that has dealings with the Crown.
2. A person, group or entity to whom the public servant provides services in the course of his or her duties to the Crown.
3. A person, group or entity that seeks to do business with the Crown.

(2) Subsection (1) shall not operate to prevent a public servant from accepting a gift of nominal value given as an expression of courtesy or hospitality if doing so is reasonable in the circumstances.

- (3) A public servant who receives a gift in the circumstances described in subsection (1) shall notify his or her designated official.

6. (1) A public servant shall not disclose confidential information obtained during the course of his or her employment in the service of the Crown to a person or entity unless the public servant is authorized to do so by law or by the Crown.

(2) A public servant shall not use confidential information in a business or undertaking outside his or her work for the Crown.

- (3) A public servant shall not accept a gift directly or indirectly in exchange for disclosing confidential information.

7. (1) When performing his or her duties to the Crown, a public servant shall not give preferential treatment to any person or entity, including a person or entity in which the public servant or a member of his or her family or a friend has an interest.

(2) When performing his or her duties to the Crown, a public servant shall endeavour to avoid creating the appearance that preferential treatment is being given to a person or entity that could benefit from it.

- (3) A public servant shall not offer assistance to a person or entity in dealing with the Crown other than assistance given in the ordinary course of the public servant's employment.

8. (1) A public servant shall not, on behalf of the Crown, hire his or her spouse, child, parent or sibling.

(2) A public servant shall not, on behalf of the Crown, enter into a contract with his or her spouse, child, parent or sibling or with a person or entity in which any of them has a substantial interest.

(3) A public servant who hires a person on behalf of the Crown shall ensure that the person does not report to, or supervise the work of, the person's spouse, child, parent or sibling.

(4) A public servant who reports to, or supervises the work of, his or her spouse, child, parent or sibling shall notify his or her designated official.

9. A public servant shall not become employed by or engage in a business or undertaking outside his or her employment in the service of the Crown in any of the following circumstances:

1. If the public servant's private interests in connection with the employment or undertaking could conflict with his or her duties to the Crown.
2. If the employment or undertaking would interfere with the public servant's ability to perform his or her duties to the Crown.
3. If the employment is in a professional capacity and is likely to influence or detrimentally affect the public servant's ability to perform his or her duties to the Crown.
4. If the employment would constitute full-time employment for another person. This paragraph does not apply with respect to a public servant who is employed part-time by the Crown, or is on a leave of absence (as defined in subsection 70 (1)) or on secondment.
5. If, in connection with the employment or undertaking, any person would derive an advantage from the public servant's employment as a public servant.
6. If government premises, equipment or supplies are used in the employment or undertaking.

DUTY TO NOTIFY THE DESIGNATED OFFICIAL

10. (1) A public servant shall notify his or her designated official if circumstances could arise in which the public servant's private interests could conflict with his or her duties to the Crown.

(2) Without limiting the generality of subsection (1), the public servant shall notify the designated official of the existence of circumstances in which the public servant could benefit from a decision by the Crown that he or she is able to influence in the course of his or her duties to the Crown.

(3) The public servant shall disclose the particulars of the potential conflict of interest to the designated official.

(4) If the circumstances arise in connection with the public servant's membership as a public servant in a body or a group, he or she shall notify the other members of the body or group about the existence of a potential conflict of interest and shall not participate when the body or group makes a decision in the circumstances.

CONDUCT RELATING TO THE PRIVATIZATION OF CROWN ACTIVITIES

11. Sections 12 to 14 apply as indicated to the following classes of public servant:

1. Public servants who routinely work on privatization issues and who have access to confidential information about those issues obtained during the course of their employment in the service of the Crown.

2. Public servants who are working on a particular privatization matter that has been referred to the Privatization Secretariat for review and who have access to confidential information about that matter obtained during the course of their employment in the service of the Crown.

12. (1) A public servant working on a particular privatization matter shall make a declaration to his or her designated third party about whether the public servant's private interests could conflict with his or her duties to the Crown respecting the matter.

(2) The declaration must be made when the public servant first becomes involved in work on the privatization matter.

(3) The public servant shall promptly revise his or her declaration if there is a change in his or her circumstances such that the public servant's private interests could conflict with his or her duties to the Crown.

(4) Section 10 applies if the declaration indicates that the public servant's private interests could conflict with his or her duties to the Crown.

13. (1) A public servant who routinely works on privatization issues shall, subject to subsection (2), disclose the following matters respecting his or her financial interests to his or her designated third party:

1. A legal or beneficial interest of the public servant in securities or derivatives of corporations or governments, other than the Government of Ontario.
2. A legal or beneficial interest of the public servant in a business entity or a commercial operation or in the assets of such an entity or operation.
3. A legal or beneficial interest of the public servant in real property.
4. A legal or beneficial interest of the public servant in a mutual fund that is operated as an investment club where,
 - i. its shares or units are held by not more than 50 persons and its indebtedness has never been offered to the public,
 - ii. it does not pay or give any remuneration for investment advice or in respect of trades in securities, except normal brokerage fees, and
 - iii. all of its members are required to make contributions in proportion to the shares or units each holds for the purpose of financing its operations.

(2) The public servant is not required to disclose his or her legal or beneficial interest in any of the following:

1. A mutual fund within the meaning of subsection 1 (1) of the *Securities Act* other than a mutual fund described in paragraph 4 of subsection (1).
2. Fixed-value securities issued or guaranteed by a government or a government agency.
3. A guaranteed investment certificate or similar financial instrument issued by a financial institution entitled by law to issue such instruments.
4. A registered pension plan, an employee benefit plan, an annuity or life insurance policy or a deferred profit sharing plan.
5. Real property that the public servant, or a member of his or her family, uses primarily as a residence or for recreational purposes.

(3) The public servant shall disclose the information required by subsection (1), with necessary modifications, in respect of his or her spouse and dependent children, but only to the extent that the legal or beneficial interests of the spouse or a child could create a conflict of interest.

(4) For the purpose of subsection (3), the public servant shall make reasonable efforts to obtain information about the financial interests described in subsection (1) of his or her spouse and dependent children.

14. (1) A public servant who routinely works on privatization issues shall not purchase or cause another person to purchase on his or her behalf a legal or beneficial interest in a person or entity,

(a) that is carrying on an activity formerly carried on by the Crown that the Crown has privatized; or

(b) that proposes to carry on an activity formerly carried on by the Crown that the Crown wishes to privatize.

(2) A public servant working on a particular privatization matter shall not purchase or cause another person to purchase on his or her behalf a legal or beneficial interest in a person or entity,

(a) that is carrying on an activity relating to the matter that he or she worked on that the Crown has privatized; or

(b) that proposes to carry on an activity relating to the matter that he or she worked on that the Crown wishes to privatize.

(3) Despite subsections (1) and (2), a public servant may purchase an interest in a mutual fund (within the meaning of subsection 1 (1) of the *Securities Act*) that includes securities of a person or entity described in subsection (1) or (2) but not an interest in a mutual fund described in paragraph 4 of subsection 13 (1) that includes such securities.

(4) The prohibition described in subsection (1) or (2) ceases to have effect with respect to a particular activity six months after the date on which the privatization of the activity is completed or the Crown ceases to endeavour to privatize the activity.

ADMINISTRATION

15. (1) The Civil Service Commission shall maintain a current list of,

(a) positions in which public servants routinely work on privatization issues and have access to confidential information about those issues obtained during the course of their employment in the service of the Crown;

(b) positions in which public servants work on a particular privatization matter that has been referred to the Privatization Secretariat and have access to confidential information about that matter obtained during the course of their employment in the service of the Crown.

(2) The Commission shall ensure that persons in the positions described in subsection (1) are advised of the duties and restrictions imposed upon them under sections 12 to 14.

(3) Every designated official shall notify the Commission of changes to be made to the list with respect to those persons for whom he or she is the designated official.

16. (1) A designated official or designated third party may collect, use and disclose information obtained under this Regulation.

(2) A designated official or designated third party shall not disclose information obtained under this Regulation unless,

(a) the person to whom the information relates consents to the disclosure; or

(b) the disclosure is required by law in connection with a legal proceeding relating to this Regulation.

(3) Despite subsection (2), the designated official or designated third party may disclose information when he or she is engaging in consultations for the purpose of advising the public servant or determining whether this Regulation has been or may be contravened.

CIVIL SERVICE COMMISSION:

MICHELE NOBLE
Chair

MORAG DION
Secretary

Dated on November 7, 1997.

51/97

ONTARIO REGULATION 436/97 made under the PUBLIC SERVICE ACT

Made: November 7, 1997
Approved: November 19, 1997
Filed: December 3, 1997

Amending Reg. 977 of R.R.O. 1990
(General)

Note: Regulation 977 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 15 Regulation 977 of the Revised Regulations of Ontario, 1990 is revoked.

CIVIL SERVICE COMMISSION:

MICHELE NOBLE
Chair

MORAG DION
Secretary

Dated on November 7, 1997.

51/97

ONTARIO REGULATION 437/97
made under the
ONTARIO COLLEGE OF TEACHERS ACT, 1996

English version made: September 30, 1997
English version approved: October 8, 1997
French version made: November 14, 1997
French version approved: November 19, 1997
Regulation filed: December 4, 1997

PROFESSIONAL MISCONDUCT

1. The following acts are defined as professional misconduct for the purposes of subsection 30 (2) of the Act:

1. Providing false information or documents to the College or any other person with respect to the member's professional qualifications.
2. Inappropriately using a term, title or designation indicating a specialization in the profession which is not specified on the member's certificate of qualification and registration.
3. Permitting, counselling or assisting any person who is not a member to represent himself or herself as a member of the College.
4. Using a name other than the member's name, as set out in the register, in the course of his or her professional duties.
5. Failing to maintain the standards of the profession.
6. Releasing or disclosing information about a student to a person other than the student or, if the student is a minor, the student's parent or guardian. The release or disclosure of information is not an act of professional misconduct if,
 - i. the student (or if the student is a minor, the student's parent or guardian) consents to the release or disclosure, or
 - ii. if the release or disclosure is required or allowed by law.
7. Abusing a student physically, sexually, verbally, psychologically or emotionally.
8. Practising or purporting to practise the profession while under the influence of any substance or while adversely affected by any dysfunction,
 - i. which the member knows or ought to know impairs the member's ability to practise, and
 - ii. in respect of which treatment has previously been recommended, ordered or prescribed but the member has failed to follow the treatment.
9. Contravening a term, condition or limitation imposed on the member's certificate of qualification and registration.
10. Failing to keep records as required by his or her professional duties.
11. Failing to supervise adequately a person who is under the professional supervision of the member.
12. Signing or issuing, in the member's professional capacity, a document that the member knows or ought to know contains a false, improper or misleading statement.
13. Falsifying a record relating to the member's professional responsibilities.

RÈGLEMENT DE L'ONTARIO 437/97
pris en application de la
**LOI DE 1996 SUR L'ORDRE DES ENSEIGNANTES
ET DES ENSEIGNANTS DE L'ONTARIO**

version anglaise prise le 30 septembre 1997
version anglaise approuvée le 8 octobre 1997
version française prise le 14 novembre 1997
version française approuvée le 19 novembre 1997
règlement déposé le 4 décembre 1997

FAUTE PROFESSIONNELLE

1. Pour l'application du paragraphe 30 (2) de la Loi, les actes suivants commis par un membre constituent des fautes professionnelles :

1. La fourniture à l'Ordre ou à toute autre personne de faux renseignements ou documents concernant sa compétence professionnelle.
2. L'utilisation inappropriée d'un terme, d'un titre ou d'une désignation indiquant une spécialisation professionnelle qui ne figure pas sur son certificat de compétence et d'inscription.
3. Le fait de permettre à une personne qui n'est pas membre de se présenter comme un membre de l'Ordre, ou de l'aider à ce faire, ou encore de la conseiller en ce sens.
4. L'utilisation dans l'exercice de ses fonctions professionnelles d'un autre nom que le sien, tel qu'il figure au tableau.
5. Le défaut de respecter les normes de la profession.
6. La communication ou la divulgation de renseignements concernant un élève à un tiers ou, si l'élève est mineur, à une personne autre que son père, sa mère ou son tuteur. La communication ou la divulgation de renseignements ne constitue pas une faute professionnelle si, selon le cas :
 - i. l'élève (ou si l'élève est mineur, son père, sa mère ou son tuteur) consent à la communication ou à la divulgation de renseignements,
 - ii. la communication ou la divulgation de renseignements est exigée ou permise par une disposition législative ou réglementaire.
7. Le fait d'infliger à un élève des mauvais traitements d'ordre physique, sexuel, verbal, psychologique ou affectif.
8. L'exercice ou l'exercice apparent de la profession lorsqu'il est sous l'effet d'une substance intoxicante ou atteint d'un trouble quelconque :
 - i. alors qu'il sait ou devrait savoir que cet état ou ce trouble compromet sa capacité d'exercer sa profession,
 - ii. pour lequel il n'a pas suivi le traitement qui lui a été recommandé, ordonné ou prescrit.
9. La contravention à une condition ou à une restriction dont est assorti son certificat de compétence et d'inscription.
10. Le défaut de tenir des dossiers comme l'exigent ses fonctions professionnelles.
11. Le défaut de surveiller adéquatement une personne placée sous sa surveillance professionnelle.
12. La signature ou la délivrance, dans l'exercice de sa profession, d'un document qu'il sait ou devrait savoir contenir une déclaration fautive, irrégulière ou trompeuse.
13. La falsification d'un dossier concernant ses responsabilités professionnelles.

14. Failing to comply with the Act or the regulations or the by-laws.
15. Failing to comply with the *Education Act* or the regulations made under that Act, if the member is subject to that Act.
16. Contravening a law if the contravention is relevant to the member's suitability to hold a certificate of qualification and registration.
17. Contravening a law if the contravention has caused or may cause a student who is under the member's professional supervision to be put at or to remain at risk.
18. An act or omission that, having regard to all the circumstances, would reasonably be regarded by members as disgraceful, dishonourable or unprofessional.
19. Conduct unbecoming a member.
20. Failing to appear before a panel of the Investigation Committee to be cautioned or admonished, if the Investigation Committee has required the member to appear under clause 26 (5) (c) of the Act.
21. Failing to comply with an order of a panel of the Discipline Committee or an order of a panel of the Fitness to Practise Committee.
22. Failing to co-operate in a College investigation.
23. Failing to take reasonable steps to ensure that the requested information is provided in a complete and accurate manner if the member is required to provide information to the College under the Act and the regulations.
24. Failing to abide by a written undertaking given by the member to the College or by an agreement entered into by the member with the College.
25. Failing to respond adequately or within a reasonable time to a written inquiry from the College.
26. Practising the profession while the member is in a conflict of interest.
27. Failing to comply with the member's duties under the *Child and Family Services Act*.

2. A finding of incompetence, professional misconduct or a similar finding against a member by a governing authority of the teaching profession in a jurisdiction other than Ontario that is based on facts that would, in the opinion of the Discipline Committee, constitute professional misconduct as defined in section 1, is defined as professional misconduct for the purposes of subsection 30 (2) of the Act.

THE COUNCIL OF THE ONTARIO COLLEGE OF TEACHERS:

D. M. KENNEDY
Chair

Dated on September 30, 1997.

14. L'inobservation de la Loi ou des règlements, ou des règlements administratifs.
15. L'inobservation de la *Loi sur l'éducation* ou de ses règlements d'application, s'il est assujéti à cette loi.
16. La contravention à une disposition législative ou réglementaire si cette contravention se rapporte à son aptitude à détenir un certificat de compétence et d'inscription.
17. La contravention à une disposition législative ou réglementaire si cette contravention a mis, met ou risque de mettre en danger un élève placé sous sa surveillance professionnelle.
18. Tout acte ou toute omission que les membres pourraient raisonnablement juger honteux, déshonorant ou contraire aux devoirs de la profession, compte tenu de l'ensemble des circonstances.
19. Toute conduite qui ne sied pas au statut de membre.
20. Le défaut de se présenter devant un sous-comité du comité d'enquête pour recevoir un avertissement ou une réprimande, si le comité d'enquête a exigé qu'il se présente en vertu de l'alinéa 26 (5) c) de la Loi.
21. Le défaut de se conformer à une ordonnance d'un sous-comité du comité de discipline ou d'un sous-comité du comité d'aptitude professionnelle.
22. Le défaut de collaborer lors d'une enquête menée par l'Ordre.
23. Le défaut de prendre des mesures raisonnables pour veiller à ce que les renseignements demandés soient fournis de façon complète et exacte s'il est tenu de fournir des renseignements aux termes de la Loi et des règlements.
24. Le non-respect d'un engagement qu'il a pris par écrit envers l'Ordre ou d'une entente conclue entre lui et l'Ordre.
25. Le défaut de répondre adéquatement ou dans un délai raisonnable à une demande de renseignements écrite émanant de l'Ordre.
26. L'exercice de la profession lorsqu'il est en situation de conflit d'intérêts.
27. Le défaut de se conformer aux obligations qui lui incombent aux termes de la *Loi sur les services à l'enfance et à la famille*.

2. Une constatation d'incompétence ou de faute professionnelle, ou toute autre constatation semblable, faite à l'endroit d'un membre par le corps dirigeant de la profession enseignante dans un territoire autre que l'Ontario et fondée sur des faits qui, de l'avis du comité de discipline, constitueraient une faute professionnelle au sens de l'article 1, est qualifiée de faute professionnelle pour l'application du paragraphe 30 (2) de la Loi.

LE CONSEIL DE L'ORDRE DES ENSEIGNANTES
ET DES ENSEIGNANTS DE L'ONTARIO :

D. M. KENNEDY
Présidente

Fait le 14 novembre 1997.

ONTARIO REGULATION 438/97
made under the
MUNICIPAL ACT

Made: December 3, 1997
Filed: December 5, 1997

ELIGIBLE INVESTMENTS

1. A municipality does not have the power to invest under section 167 of the Act in a security other than a security prescribed under this Regulation.

2. The following are prescribed, for the purposes of clause 167 (2) (a) of the Act, as securities that a municipality may invest in:

1. Bonds, debentures, promissory notes or other evidence of indebtedness issued or guaranteed by,

- i. Canada or a province or territory of Canada,
- ii. an agency of Canada or a province or territory of Canada,
- iii. a country other than Canada,
- iv. a municipality in Canada including the municipality making the investment,
- v. a school board or similar entity in Canada,
- vi. a local board as defined in the *Municipal Affairs Act* (but not including a school board or a municipality) or a conservation authority established under the *Conservation Authorities Act*, or
- vii. the Municipal Finance Authority of British Columbia.

2. Bonds, debentures, promissory notes or other evidence of indebtedness of a corporation if,

- i. the bond, debenture or other evidence of indebtedness is secured by the assignment, to a trustee, as defined in the *Trustee Act*, of payments that Canada or a province or territory of Canada has agreed to make or is required to make under a federal, provincial or territorial statute, and
- ii. the payments referred to in subparagraph i are sufficient to meet the amounts payable under the bond, debenture or other evidence of indebtedness, including the amounts payable at maturity.

3. Deposit receipts, deposit notes, certificates of deposit or investment, acceptances or similar instruments issued, guaranteed or endorsed by,

- i. a bank listed in Schedule I or II to the *Bank Act* (Canada),
- ii. a loan corporation or trust corporation registered under the *Loan and Trust Corporation Act*,
- iii. a credit union or league to which the *Credit Union and Caisses Populaires Act* applies, or
- iv. the Province of Ontario Savings Office.

4. Bonds, debentures or evidence of long-term indebtedness issued or guaranteed by an institution listed in paragraph 3.

5. Short term securities, the terms of which provide that the principal and interest shall be fully repaid no later than three days after the day the investment was made, that are issued by,

- i. the board of governors of a college of applied arts and technology established under section 5 of the *Ministry of Colleges and Universities Act*,
- ii. a degree granting institution as authorized under section 3 of the *Degree Granting Act*, or
- iii. a board as defined in the *Public Hospitals Act*.

6. Bonds, debentures or other securities issued or guaranteed by the International Bank for Reconstruction and Development.

3. (1) A municipality shall not invest in a security under subparagraph iii of paragraph 1 or paragraph 4 of section 2 unless the bond, debenture, promissory note or evidence of indebtedness is rated,

- (a) by Canadian Bond Rating Service Inc. as "AA-" or higher;
- (b) by Dominion Bond Rating Service Limited as "AA(low)" or higher;
- (c) by Moody's Investors Services Inc. as "Aa3" or higher; or
- (d) by Standard and Poor's Inc. as "AA-" or higher.

(2) If an investment made under subparagraph iii of paragraph 1 or paragraph 4 of section 2 falls below the standard required under subsection (1), the municipality shall sell the investment within 90 days after the day the investment falls below the standard.

4. (1) A municipality shall not invest more than 25 per cent of the total amount in all sinking and retirement funds in respect of debentures of the municipality, as estimated by its treasurer on the date of the investment, in short-term debt issued or guaranteed by the municipality.

(2) In this section,

"short-term debt" means any debt, the terms of which provide that the principal and interest of the debt shall be fully repaid no later than 364 days after the debt is incurred.

5. A municipality shall not invest in a security issued or guaranteed by a school board or similar entity unless,

- (a) the money raised by issuing the security is to be used for school purposes; and
- (b) the security is to be repaid entirely from taxes or charges levied on property, with grants or appropriations made by the government of Canada or a province or territory of Canada or a municipality, or from a combination of such taxes, charges, grants and appropriations.

6. (1) A municipality shall not invest in a security that is expressed or payable in any currency other than Canadian dollars.

(2) Subsection (1) does not prevent a municipality from continuing an investment, made before this Regulation comes into force, that is expressed and payable in the currency of the United States of America or the United Kingdom.

7. Before a municipality invests in a security prescribed under this Regulation, the council of the municipality shall, if it has not already done so, adopt a statement of the municipality's investment policies and goals.

8. (1) If a municipality has an investment in a security prescribed under this Regulation, the council of the municipality shall require the treasurer of the municipality to prepare and provide to the council, each year or more frequently as specified by the council, an investment report.

- (2) The investment report referred to in subsection (1) shall contain,
- (a) a statement about the performance of the portfolio of investments of the municipality during the period covered by the report;
 - (b) a description of the estimated proportion of the total investments of a municipality that are invested in its own long-term and short-term securities to the total investment of the municipality and a description of the change, if any, in that estimated proportion since the previous year's report;
 - (c) a statement by the treasurer as to whether or not, in his or her opinion, all investments were made in accordance with the investment policies and goals adopted by the municipality;
 - (d) a record of the date of each transaction in or disposal of its own securities, including a statement of the purchase and sale price of each security; and
 - (e) such other information that the council may require or that, in the opinion of the treasurer, should be included.

9. (1) Despite this Regulation, an investment by a municipality in bonds, debentures or other indebtedness of a corporation made before March 6, 1997 may be continued if the bond, debenture or other indebtedness is rated,

- (a) by Canadian Bond Rating Service Inc. as "AA-" or higher;
- (b) by Dominion Bond Rating Service Limited as "AA(low)" or higher;
- (c) by Moody's Investors Services Inc. as "Aa3" or higher; or
- (d) by Standard and Poor's Inc. as "AA-" or higher.

(2) If the rating of an investment continued under subsection (1) falls below the standard required by that subsection, the municipality shall sell the investment within 90 days after the day the investment falls below the standard.

10. Ontario Regulation 74/97 is revoked.

51/97

ONTARIO REGULATION 439/97 made under the COURTS OF JUSTICE ACT

Made: November 19, 1997
Approved: December 3, 1997
Filed: December 5, 1997

Amending Reg. 187 of R.R.O. 1990
(District of Algoma Civil Case Management Rules)

Note: Regulation 187 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Rule 18 of Regulation 187 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

REVOCATION

18. These rules are revoked on December 31, 1998.

51/97

RÈGLEMENT DE L'ONTARIO 439/97 pris en application de la LOI SUR LES TRIBUNAUX JUDICIAIRES

pris le 19 novembre 1997
approuvé le 3 décembre 1997
déposé le 5 décembre 1997

modifiant le Règl. 187 des R.R.O. de 1990
(Règles de gestion des causes civiles du district d'Algoma)

Remarque : Le Règlement 187 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. La règle 18 du Règlement 187 des Règlements refondus de l'Ontario de 1990 est abrogée et remplacée par ce qui suit :

ABROGATION

18. Les présentes règles sont abrogées le 31 décembre 1998.

ONTARIO REGULATION 440/97 made under the COURTS OF JUSTICE ACT

Made: November 19, 1997
Approved: December 3, 1997
Filed: December 5, 1997

Amending Reg. 189 of R.R.O. 1990
(Essex Civil Case Management Rules)

Note: Regulation 189 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Rule 17 of Regulation 189 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

REVOCATION

17. These rules are revoked on December 31, 1998.

51/97

RÈGLEMENT DE L'ONTARIO 440/97 pris en application de la LOI SUR LES TRIBUNAUX JUDICIAIRES

pris le 19 novembre 1997
approuvé le 3 décembre 1997
déposé le 5 décembre 1997

modifiant le Règl. 189 des R.R.O. de 1990
(Règles de gestion des causes civiles d'Essex)

Remarque : Le Règlement 189 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. La règle 17 du Règlement 189 des Règlements refondus de l'Ontario de 1990 est abrogée et remplacée par ce qui suit :

ABROGATION

17. Les présentes règles sont abrogées le 31 décembre 1998.

ONTARIO REGULATION 441/97
made under the
COURTS OF JUSTICE ACT

Made: December 3, 1997
Filed: December 5, 1997

Amending O. Reg. 992/93
(Bilingual Proceedings: Additions to Schedules 1 and 2 of
Section 126 of the Act)

Note: Ontario Regulation 922/93 has not previously been amended.

1. Section 1 of Ontario Regulation 922/93 is amended by adding the following paragraph:

1.1 County of Middlesex

2. Section 2 of the Regulation is amended by adding the following paragraph:

1.1 County of Middlesex

51/97

ONTARIO REGULATION 442/97
made under the
COURTS OF JUSTICE ACT

Made: November 19, 1997
Approved: December 3, 1997
Filed: December 5, 1997

Amending Reg. 194 of R.R.O. 1990
(Rules of Civil Procedure)

Note: Since January 1, 1997, Regulation 194 has been amended by Ontario Regulations 118/97, 348/97 and 427/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. The definition of "county" in rule 1.03 of Regulation 194 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

"county" includes a district, a regional or district municipality, and the City of Toronto; ("comté")

2. Subrule 14.01.1 (1) of the Regulation is amended by striking out "the Municipality of Metropolitan Toronto" and substituting "the City of Toronto".

3. Subrule 18.03 (1) of the Regulation is amended by striking out "the Municipality of Metropolitan Toronto" and substituting "the City of Toronto".

4. Clause 77.01 (1) (b) of the Regulation is revoked and the following substituted:

(b) commenced in The Municipality of Metropolitan Toronto on or after December 2, 1991 or in the City of Toronto on or after January 1, 1998 and randomly assigned to case management by the registrar, acting under the direction of the regional senior judge.

5. This Regulation comes into force on the day the City of Toronto Act, 1997 (No. 2) comes into force.

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RÈGLEMENT DE L'ONTARIO 441/97
pris en application de la
LOI SUR LES TRIBUNAUX JUDICIAIRES

pris le 3 décembre 1997
déposé le 5 décembre 1997

modifiant le Règl. de l'Ont. 992/93
(Instances bilingues : ajouts aux annexes 1 et 2 de
l'article 126 de la Loi)

Remarque : Le Règlement de l'Ontario 922/93 n'a pas été modifié antérieurement.

1. L'article 1 du Règlement de l'Ontario 922/93 est modifié par adjonction de la disposition suivante :

1.1 Le comté de Middlesex.

2. L'article 2 du Règlement est modifié par adjonction de la disposition suivante :

1.1 Le comté de Middlesex.

RÈGLEMENT DE L'ONTARIO 442/97
pris en application de la
LOI SUR LES TRIBUNAUX JUDICIAIRES

pris le 19 novembre 1997
approuvé le 3 décembre 1997
déposé le 5 décembre 1997

modifiant le Règl. 194 des R.R.O. de 1990
(Règles de procédure civile)

Remarque : Depuis le 1^{er} janvier 1997, le Règlement 194 a été modifié par les Règlements de l'Ontario 118/97, 348/97 et 427/97. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. La définition de «comté» à la règle 1.03 du Règlement 194 des Règlements refondus de l'Ontario de 1990 est abrogée et remplacée par ce qui suit :

«comté» S'entend en outre d'un district, d'une municipalité régionale ou de district, ou de la cité de Toronto. («county»)

2. Le paragraphe 14.01.1 (1) du Règlement est modifié par substitution de «cité de Toronto» à «municipalité de la communauté urbaine de Toronto».

3. Le paragraphe 18.03 (1) du Règlement est modifié par substitution de «cité de Toronto» à «municipalité de la communauté urbaine de Toronto».

4. L'alinéa 77.01 (1) b) du Règlement est abrogé et remplacé par ce qui suit :

b) introduites dans la municipalité de la communauté urbaine de Toronto à compter du 2 décembre 1991 ou dans la cité de Toronto à compter du 1^{er} janvier 1998 et affectées au hasard au système de gestion des causes par le greffier, qui agit selon les directives du juge principal régional.

5. Le présent règlement entre en vigueur le jour de l'entrée en vigueur de la Loi de 1997 sur la cité de Toronto (n° 2).

ONTARIO REGULATION 443/97
made under the
FARM PRODUCTS MARKETING ACT

Made: November 13, 1997
Filed: December 5, 1997

Amending Reg. 402 of R.R.O. 1990
(Chickens—Marketing)

Note: Regulation 402 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Clause 5 (1) of Regulation 402 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

- (i) requiring and providing for the furnishing of security or proof of financial responsibility or of a performance bond by a person or class of persons engaged in the producing, marketing or processing of chicken and providing for the administration, forfeiture and disposition of any money or securities so furnished and the proceeds therefrom.

2. Section 19 of the Regulation is amended by adding the following subsection:

(7) The arbitration board shall not make an award if the parties reach an agreement on all matters in dispute and inform the board of that fact before an award is made.

ONTARIO FARM PRODUCTS MARKETING COMMISSION:

JAMES H. WHEELER
Chair

GLORIA MARCO BORYS
Secretary

Dated on November 13, 1997.

51/97

ONTARIO REGULATION 444/97
made under the
DRUG AND PHARMACIES REGULATION ACT

Made: November 7, 1997
Approved: December 3, 1997
Filed: December 5, 1997

Amending O. Reg. 297/96
(General)

Note: Since January 1, 1997, Ontario Regulation 297/96 has been amended by Ontario Regulation 119/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Subsection 2 (1) of Ontario Regulation 297/96 is amended by striking out "\$650" in the second line and substituting "\$385".

(2) Subsection 2 (4) of the Regulation is amended by striking out "to" after "due" in the second line.

COUNCIL OF THE ONTARIO COLLEGE OF PHARMACISTS:

S. BALESTRINI
President

A. J. DUNSDON
Registrar

Dated on November 7, 1997.

51/97

ONTARIO REGULATION 445/97
made under the
**FARM REGISTRATION AND FARM
ORGANIZATIONS FUNDING ACT, 1993**

Made: November 24, 1997
Filed: December 5, 1997

Amending O. Reg. 722/93
(Filing dates)

Note: Ontario Regulation 722/93 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Section 1 of Ontario Regulation 722/93 is amended by striking out the portion before paragraph 1 and substituting the following:

1. For the purpose of subsection 2 (4) of the Act, if the Ministry provides a farming business registration form before the date by which it is to be filed as determined under paragraphs 1 and 2, the date by which the form shall be filed is determined in accordance with the following:

RÈGLEMENT DE L'ONTARIO 445/97
pris en application de la
**LOI DE 1993 SUR L'INSCRIPTION DES ENTREPRISES
AGRICLES ET LE FINANCEMENT
DES ORGANISMES AGRICOLES**

pris le 24 novembre 1997
déposé le 5 décembre 1997

modifiant le Règl. de l'Ont. 722/93
(Dates de dépôt)

Remarque : Le Règlement de l'Ontario 722/93 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. (1) L'article 1 du Règlement de l'Ontario 722/93 est modifié par substitution de ce qui suit à la partie qui précède la disposition 1 :

1. Pour l'application du paragraphe 2 (4) de la Loi, si le ministère fournit une formule d'inscription d'entreprise agricole avant la date à laquelle elle doit être déposée d'après les dispositions 1 et 2, la date de ce dépôt est fixée conformément à ce qui suit :

(2) Paragraph 3 of section 1 of the Regulation is revoked and the following substituted:

3. If the form cannot be filed by the relevant date as determined under paragraphs 1 and 2, a farming business that files the form on or before August 31 in the year may still be registered for that year, but not if the form is filed after that date.

(3) Section 1 of the Regulation is amended by adding the following subsections:

(2) If the Ministry does not send the farming business registration form to the farming business's mailing address before the relevant date as determined under paragraphs 1 and 2 of subsection (1), the date by which the form shall be filed is the date that is 60 days after the date the Ministry sends the form.

(3) Despite subsections (1) and (2), the date by which that part of the farming business registration form requiring records under paragraph 12 of section 2 of Ontario Regulation 723/93 shall be filed is 60 days after the date the Ministry sends that part of the form to the farming business's mailing address.

2. This Regulation comes into force on January 1, 1998.

NOBLE VILLENEUVE
Minister of Agriculture, Food and Rural Affairs

Dated on November 24, 1997.

51/97

ONTARIO REGULATION 446/97
made under the
FARM REGISTRATION AND FARM
ORGANIZATIONS FUNDING ACT, 1993

Made: December 3, 1997
Filed: December 5, 1997

Amending O. Reg. 723/93
(General)

Note: Ontario Regulation 723/93 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Paragraph 1 of section 2 of Ontario Regulation 723/93 is revoked and the following substituted:

1. The name and location of the farms operated by the farming business and the municipal assessment roll numbers for all property used by the farming business.

(2) Section 2 of the Regulation is amended by adding the following paragraph:

12. For the purpose of verifying the farming business's eligibility for the Class 6—farmlands property tax rate under the *Assessment Act*, financial, inventory and business organization records of the farming business sufficient to establish the gross income from farming of the farming business for the year and the citizenship and residency of the persons who carry on the farming business.

2. This Regulation comes into force on January 1, 1998.

51/97

(2) La disposition 3 de l'article 1 du Règlement est abrogée et remplacée par ce qui suit :

3. Si la formule ne peut pas être déposée à la date pertinente déterminée aux termes des dispositions 1 et 2, une entreprise agricole qui dépose la formule au plus tard le 31 août de l'année peut encore être inscrite pour cette année, mais cela n'est pas possible si la formule est déposée après cette date.

(3) L'article 1 du Règlement est modifié par adjonction des paragraphes suivants :

(2) Si le ministère n'envoie pas la formule d'inscription d'entreprise agricole à l'adresse postale de l'entreprise agricole avant la date pertinente fixée aux termes des dispositions 1 et 2 du paragraphe (1), la formule doit être déposée au plus tard à une date qui est postérieure de 60 jours à la date à laquelle le ministère envoie la formule.

(3) Malgré les paragraphes (1) et (2), la date à laquelle la partie de la formule d'inscription d'entreprise agricole exigeant des renseignements aux termes de la disposition 12 de l'article 2 du Règlement de l'Ontario 723/93 doit être déposée est fixée à 60 jours après la date à laquelle le ministère envoie cette partie de la formule à l'adresse postale de l'entreprise agricole.

2. Le présent règlement entre en vigueur le 1^{er} janvier 1998.

NOBLE VILLENEUVE
Ministre de l'Agriculture, de l'Alimentation et des Affaires rurales

Fait le 24 novembre 1997.

RÈGLEMENT DE L'ONTARIO 446/97
pris en application de la
LOI DE 1993 SUR L'INSCRIPTION DES ENTREPRISES
AGRICOLLES ET LE FINANCEMENT
DES ORGANISMES AGRICOLES

pris le 3 décembre 1997
déposé le 5 décembre 1997

modifiant le Règl. de l'Ont. 723/93
(Dispositions générales)

Remarque : Le Règlement de l'Ontario 723/93 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. (1) La disposition 1 de l'article 2 du Règlement de l'Ontario 723/93 est révoquée et remplacée par ce qui suit :

1. Le nom et l'emplacement des fermes qu'exploite l'entreprise agricole et les numéros du rôle de l'évaluation municipale pour tous les biens qu'utilise l'exploitation agricole.

(2) L'article 2 du Règlement est modifié par adjonction de la disposition suivante :

12. Dans le but de vérifier l'admissibilité de l'entreprise agricole au taux d'imposition sur les biens-fonds agricoles, catégorie 6, aux termes de la *Loi sur l'évaluation foncière*, les renseignements concernant les finances, l'inventaire et les affaires de l'entreprise agricole qui sont suffisants pour établir le revenu brut de cette entreprise pour l'année et la citoyenneté et la résidence des personnes qui exploitent l'entreprise agricole.

2. Le présent règlement entre en vigueur le 1^{er} janvier 1998.

ONTARIO REGULATION 447/97
made under the
COURTS OF JUSTICE ACT

Made: November 24, 1997
Approved: December 3, 1997
Filed: December 5, 1997

Amending O. Reg. 704/91
(Toronto Family Case Management Rules)

Note: Ontario Regulation 704/91 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Rule 6.02 of Ontario Regulation 704/91 is revoked and the following substituted:

6.02 These rules are revoked on December 31, 1998.

51/97

ONTARIO REGULATION 448/97
made under the
CROWN FOREST SUSTAINABILITY ACT, 1994

Made: December 3, 1997
Filed: December 5, 1997

Amending O. Reg. 167/95
(General)

Note: Ontario Regulation 167/95 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Sections 3, 4 and 5 of Ontario Regulation 167/95 are revoked.

2. Schedules 1 and 2 to the Regulation are revoked.

51/97

ONTARIO REGULATION 449/97
made under the
OCCUPATIONAL HEALTH AND SAFETY ACT

Made: December 3, 1997
Filed: December 5, 1997

Amending O. Reg. 714/94
(Firefighters—Protective Equipment)

Note: Ontario Regulation 714/94 has not previously been amended.

1. Sections 7 and 8 of Ontario Regulation 714/94 are revoked and the following substituted:

7. (1) This section applies to:

- 1. A fire truck first put into service, by the employer or anyone else, on or after December 15, 1995.**
- 2. A fire truck acquired by the employer on or after December 31, 1997.**

(2) The cab of the fire truck shall be enclosed and shall have,

RÈGLEMENT DE L'ONTARIO 447/97
pris en application de la
LOI SUR LES TRIBUNAUX JUDICIAIRES

pris le 24 novembre 1997
approuvé le 3 décembre 1997
déposé le 5 décembre 1997

modifiant le Règl. de l'Ont. 704/91
(Règles de gestion des causes en droit de la famille de Toronto)

Remarque : Le Règlement de l'Ontario 704/91 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. La règle 6.02 du Règlement de l'Ontario 704/91 est abrogée et remplacée par ce qui suit :

6.02 Les présentes règles sont abrogées le 31 décembre 1998.

(a) one or more driving and crew compartments;

(b) a roof, floor, four sides and positive latching doors which together provide total enclosure of the driver and passengers; and

(c) sufficient seats for the maximum number of persons intended under the manufacturer's specifications to be accommodated in the cab.

(3) The fire truck shall be equipped with sufficient anti-slip handle-holds to allow firefighters to use the position known as the three-point contact method when entering or exiting the cab.

(4) Tools, self-contained breathing apparatus and other fire fighting equipment or paraphernalia carried in the cab of the fire truck shall be secured to fixed positions by positive mechanical means or stowed in compartments with positive latching doors.

7.1 The cab of a fire truck described in paragraph 1 of subsection 7 (1) shall have seats equipped with back and anti-whiplash head supports and seat belts.

8. (1) No firefighter shall travel on board a fire truck that is moving at more than 8 kilometres an hour unless he or she is seated within a cab or is travelling on the tailboard as allowed under subsection (2).

(2) Until December 15, 1999, a firefighter may travel on the tailboard of a fire truck that was first put into service by the employer before February 15, 1995 if,

(a) adequate handles and suitable safety belts or harnesses are provided by the employer and are approved by the joint health and safety committee or the trade union, if any;

(b) the surface of the tailboard has safe footing;

(c) no person is standing on any other side of the truck while it is moving;

(d) each firefighter has a minimum standing space on the tailboard of 56 cm x 56 cm;

(e) the tailboard is strong enough to carry the number of firefighters who are standing on it; and

(f) the employer provides an electrical signal system or a voice communication system between the driver and the persons on the tailboard.

51/97

ONTARIO REGULATION 450/97
made under the
OCCUPATIONAL HEALTH AND SAFETY ACT

Made: December 3, 1997
Filed: December 5, 1997

Amending Reg. 851 of R.R.O. 1990
(Industrial Establishments)

Note: Regulation 851 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Regulation 851 of the Revised Regulations of Ontario, 1990 is amended by inserting the following heading before section 6:

PLANS, SPECIFICATIONS AND RECORDS

2. Section 7 of the Regulation is revoked and the following substituted:

7. (1) Subject to subsections (7), (8) and (11), this section applies when equipment, a machine or a device is to be constructed, developed, reconstructed, altered or installed in a factory, if the equipment, machine or device is,

- (a) used in a process that either uses or produces a designated substance or a substance that is hazardous because of its toxicity, flammability, temperature, pressure or other property; or
- (b) required by this Regulation to have a shield, guard, operating control acting as a guard or another device that prevents access.

(2) The owner or lessee of the equipment, machine or device shall ensure that design drawings, layout and specifications are prepared in accordance with good engineering practice.

(3) The design drawings, layout and specifications must include such of the following information and documents as are appropriate in the circumstances:

- 1. A plot plan.
- 2. Foundation plans.
- 3. Elevations and sections.
- 4. Structural details.
- 5. Floor plans.
- 6. Drawings for the heating, electrical and sanitation systems.
- 7. Details respecting storage facilities.
- 8. Details respecting hazardous locations, including the electrical classification for the location under the Electrical Safety Code.
- 9. Details respecting ventilation systems.
- 10. Details respecting explosion venting and related baffles, chokers or dampers.
- 11. Details respecting any equipment, machine or device used in a process that either uses or produces a designated substance or a substance that is hazardous because of its toxicity, flammability, temperature, pressure or other property.

(4) For the purposes of subsection (3), the details to be provided must include any information that may be relevant in determining whether a hazard exists or in determining the nature and extent of a hazard.

(5) The owner or lessee shall obtain a report bearing the seal and signature of a professional engineer stating that the equipment, machine or device will comply with the Act and regulations if it is constructed, developed, reconstructed, altered and installed in accordance with the design drawings, layout and specifications.

(6) The owner or lessee shall keep the design drawings, layout and specifications and the professional engineer's report at or near the workplace at which the equipment, machine or device is located.

(7) This section does not apply in the following circumstances:

- 1. If the factory is a logging operation.
- 2. If the factory is a laundry operated in conjunction with a hospital, a hotel or a public or private institution that is operated for religious, charitable or educational purposes.

(8) This section does not apply with respect to the installation of equipment, a machine or a device described by clause (1) (b),

- (a) if the equipment, machine or device is approved or certified as described in subsections (9) and (10);
- (b) if the shield, guard, operating control or other device was installed when the equipment, machine or device was manufactured; and
- (c) if the equipment, machine or device is installed in accordance with the manufacturer's instructions.

(9) The equipment, machine or device must be certified as complying with the applicable standards defined in CSA Standard CAN/CSA-Z142-M90 "Code for Punch Press and Brake Press Operation: Health, Safety and Guarding Requirements" or in CSA Standard Z432-94 "Safeguarding of Machinery" by an organization that is accredited by the Standards Council of Canada under the *Standards Council of Canada Act* (Canada).

(10) If the equipment, machine or device is electrical, it must be approved by the Ontario Hydro Electrical Inspection Department or certified as complying with the Electrical Safety Code by an organization that is accredited by the Standards Council of Canada under the *Standards Council of Canada Act* (Canada).

(11) This section does not apply with respect to the reconstruction or alteration of equipment, a machine or a device described by clause (1) (b) if the reconstruction or alteration does not reduce the effectiveness of the shield, guard, operating control or other device.

(12) For the purposes of this section,

"Electrical Safety Code" means Ontario Regulation 612/94 ("Electrical Safety Code") made under the *Power Corporation Act*.

3. Section 8 of the Regulation is revoked.

4. The Regulation is amended by inserting the following heading before section 9:

FEEES AND FORMS

Publications under the Regulations Act Publications en vertu de la Loi sur les règlements

1997—12—27

ONTARIO REGULATION 451/97

made under the

**FAIRNESS FOR PARENTS AND EMPLOYEES ACT
(TEACHERS' WITHDRAWAL OF SERVICES), 1997**

Made: December 8, 1997

Filed: December 9, 1997

APPLICATION DEADLINE

1. The deadline for the purposes of subsections 3 (5) and (10) of the Act is January 16, 1998.

DAVID J. JOHNSON

Minister of Education and Training

Dated on December 8, 1997.

52/97

RÈGLEMENT DE L'ONTARIO 451/97

pris en application de la

**LOI DE 1997 SUR LE TRAITEMENT ÉQUITABLE
DES PARENTS ET DES EMPLOYÉS
(RETRAIT DE SERVICES PAR LES ENSEIGNANTS)**

pris le 8 décembre 1997

déposé le 9 décembre 1997

**DATE LIMITE DE PRÉSENTATION
DES DEMANDES**

1. Pour l'application des paragraphes 3 (5) et (10) de la Loi, la date limite est fixée au 16 janvier 1998.

DAVID J. JOHNSON

Ministre de l'Éducation et de la Formation

Fait le 8 décembre 1997.

**ONTARIO REGULATION 452/97
made under the
WORKERS' COMPENSATION ACT**

Made: December 3, 1997

Approved: December 10, 1997

Filed: December 11, 1997

Amending O. Reg. 715/94
(Retirement Benefits)

Note: Ontario Regulation 715/94 has not previously been amended.

1. (1) Subclause (b) (iii) of the definition of "spousal partner" in subsection 1 (1) of Ontario Regulation 715/94 is revoked and the following substituted:

(iii) have together entered into a cohabitation agreement under section 53 of the *Family Law Act* or a successor to that section.

(2) Subsection 1 (2) of the Regulation is revoked and the following substituted:

(2) The relevant date for determining whether a worker has a spousal partner and for determining the identity of the spousal partner is the date the worker reaches 65 years of age.

2. Section 5 of the Regulation is revoked.

3. Subsection 6 (5) of the Regulation is revoked and the following substituted:

(5) Where a worker who has made an election under this section dies leaving a spousal partner entitled to a survivor annuity, the amount of the payments to the survivor shall be indexed in the same manner as were the payments to the worker and, for that purpose, the amount of the first payment to the spousal partner shall be determined by applying the percentage determined under subsection 3 (5) to the last payment paid to the worker.

4. Subsection 7 (7) of the Regulation is revoked and the following substituted:

(7) To be effective, an election under subsection (6) must be in writing, must be signed by the spouse and must be delivered to the Board within 90 days after the Board notifies the spouse of his or her right to make an election under subsection (6).

5. Section 8 of the Regulation is revoked.

6. This Regulation comes into force on December 31, 1997.

WORKERS' COMPENSATION BOARD:

GLEN WRIGHT
*Chair*LINDA ANGOVE
Secretary

Dated on December 3, 1997.

52/97

ONTARIO REGULATION 453/97
made under the
WORKPLACE SAFETY AND INSURANCE ACT, 1997

Made: December 3, 1997
Approved: December 10, 1997
Filed: December 11, 1997

Revoking O. Reg. 715/94
(Retirement Benefits)

1. (1) Ontario Regulations 715/94 and 452/97 are revoked.

(2) For greater certainty, the revocation of Ontario Regulation 715/94 does not affect its application under section 102 of the Act.

2. This Regulation comes into force on January 1, 1998.

WORKERS' COMPENSATION BOARD:

GLEN WRIGHT
Chair

LINDA ANGOVE
Secretary

Dated on December 3, 1997.

52/97

ONTARIO REGULATION 454/97
made under the
WORKERS' COMPENSATION ACT

Made: December 3, 1997
Approved: December 10, 1997
Filed: December 11, 1997

Amending O. Reg. 753/91
(Pension Benefits for Board Members and Employees)

Note: Ontario Regulation 753/91 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Clause 22 (2) (b) of Ontario Regulation 753/91 is revoked and the following substituted:

(b) the last day of,

(i) the year in which the person reaches 71 years of age, if the person was born before 1927,

(ii) 1997, if the person was born in 1927, or

(iii) the year in which the person reaches 69 years of age, if the person was born after 1927.

2. Ontario Regulation 753/91, as it reads immediately before this Regulation comes into force, continues to apply with respect to rights and benefits accrued or vested under the pension plan before December 31, 1997.

WORKERS' COMPENSATION BOARD:

GLEN WRIGHT
Chair

LINDA ANGOVE
Secretary

Dated on December 3, 1997.

52/97

ONTARIO REGULATION 455/97
made under the
WORKPLACE SAFETY AND INSURANCE ACT, 1997

Made: December 3, 1997
Approved: December 10, 1997
Filed: December 11, 1997

PENSION PLAN FOR BOARD EMPLOYEES

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PART I INTERPRETATION

DEFINITIONS

1. In this Regulation,

"actuary" means a Fellow of the Canadian Institute of Actuaries appointed by the Board as actuary of the pension plan;

"commuted value" has the same meaning as in the Pension Benefits Act;

"deferred pension" has the same meaning as in the Pension Benefits Act;

"employee" means an employee of the Board;

"former member" means a former member as determined under section 10;

"long-term disability plan" means a benefit plan provided by the Board to its employees to provide income protection in case of a long-term disability;

"member" means member of the pension plan;

"normal retirement date" means the normal retirement date determined under section 23;

"normal retirement pension" means the amount of the annual pension calculated under section 27;

"pension" means a pension benefit that is being paid under the pension plan;

"pension fund" means the fund maintained to provide benefits under the pension plan;

"pension plan" means the Workplace Safety and Insurance Board Employees' Pension Plan;

"pensionable service", in relation to a person, means the period of years, or partial years, of membership in the pension plan that the person has accumulated;

"spouse" means either of a man and woman who,

(a) are married to each other, or

(b) are not married to each other and are living together in a conjugal relationship,

(i) continuously for a period of not less than three years, or

(ii) in a relationship of some permanence, if they are the natural or adoptive parents of a child, both as defined in the *Family Law Act*;

"Year's Basic Exemption", in relation to a year, means the Year's Basic Exemption established under the Canada Pension Plan for the year;

"Year's Maximum Pensionable Earnings", in relation to a year, means the Year's Maximum Pensionable Earnings established under the Canada Pension Plan for the year.

2. (1) For the purposes of this Regulation, a person's child by adoption or step-child or a child to whom the person is acting in the role of parent is considered to be the person's child.

(2) A child is considered to be a dependent child of a former member who is deceased if the child was dependent on him or her for support immediately before the former member's death and if the child,

(a) is less than 18 years of age;

(b) is eighteen or more years of age but less than 25 years of age and is attending a school or university full-time, having so attended substantially without interruption since reaching 18 years of age or since the death of the former member, whichever occurred most recently; or

(c) is 18 or more years of age and suffers from a physical or mental impairment that prevents the child from earning a living and has suffered from the impairment without interruption since reaching 18 years of age or since the death of the former member, whichever occurred most recently.

3. (1) For the purposes of this Regulation, a full-time member of the board of directors of the Board is deemed to be an employee of the Board.

(2) For the purposes of this Regulation, a person continues to be an employee while the Board is making contributions respecting the person under section 25 of the Act.

(3) Subject to subsection (4), any period during which a member is absent from work on a leave of absence or solely because of a lay-off, strike or lockout at the Board shall not be included in the calculation of the length of the member's period of continuous employment, membership or service.

(4) Any period during which a member was absent from work on a pregnancy or parental leave of absence under the *Employment Standards Act* shall be included in the calculation of the length of the member's period of continuous employment, membership or service.

4. (1) For the purposes of this Regulation, the earnings of a member are the basic amount of remuneration that the member actually receives for his or her position, computed with reference to the period of time during which the member is employed. The earnings do not include overtime pay or a payment to the member in lieu of a benefit provided by the Board.

(2) A member's earnings include the amount of any payments under the insurance plan for loss of earnings received by the member and the amount of any supplement by the Board up to the maximum amount of the member's regular earnings. The earnings do not include retirement benefits provided to the member under section 45 of the Act or section 44 of the *Workers' Compensation Act*, as it read before January 1, 1998.

(3) A member's earnings include the amount of any pregnancy or parental benefits under the *Employment Insurance Act (Canada)* received by the member and the amount of any supplement by the Board up to the maximum amount of the member's regular earnings.

(4) The annual earnings of a member who is receiving long-term disability benefits in a year are the amount that the member was earning on the date that he or she qualified for the benefits, as increased in accordance with subsection 14 (3).

5. The commuted value of a pension calculated under this Regulation is subject to the following:

1. The commuted value shall be based on assumptions that are reasonable and, where applicable, are acceptable under the *Income Tax Act (Canada)* and the regulations under that Act.

2. The commuted value shall be calculated in accordance with generally accepted actuarial principles.
3. The calculation of the commuted value is subject to subsection 52 (1) of the *Pension Benefits Act*.
4. In relation to employment before January 1, 1987, the sex of a member shall not be taken into account in the calculation of the commuted value that a former member may require the administrator to pay under subsection 42 (1) of the *Pension Benefits Act*.

CALCULATION OF INTEREST

6. Interest calculated under this Regulation is accumulated with interest compounded annually at the minimum rate determined under the *Pension Benefits Act* or at such higher rate as is reasonable and as the Board may determine.

PART II MEMBERSHIP AND CONTRIBUTIONS

MEMBERSHIP IN THE PENSION PLAN

7. (1) Every permanent or probationary employee is a member of the pension plan beginning on the later of,

- (a) his or her date of employment; or
- (b) the date, if any, on which the employee ceases to be ineligible to be a member under subsection (2).

(2) On an employee's date of employment, the employee is not eligible to become a member of the plan if, over a period of one year at his or her normal working hours, the employee would earn less than 35 per cent of the Year's Maximum Pensionable Earnings and would work fewer than 700 hours.

8. (1) A temporary employee may elect to become a member of the pension plan after 24 months of continuous employment.

(2) A person is considered to be a temporary employee if he or she is employed to do work of a temporary nature to be performed on a regular scheduled basis during a limited period of employment.

(3) A person who is hired under a fixed-term contract of service is not eligible to be a member of the pension plan.

9. (1) An employee does not cease to be a member of the pension plan by reason only of a change in his or her employment category.

(2) An employee does not cease to be a member of the pension plan by reason only that he or she earns less than 35 per cent of the Year's Maximum Pensionable Earnings in a year or is employed for fewer than 700 hours in a year.

10. (1) A member of the pension plan becomes a former member upon terminating his or her employment with the Board.

(2) A member of the pension plan becomes a former member upon reaching the maximum age specified under the *Income Tax Act* (Canada) for contributors to a pension fund or plan.

(3) A former member of the pension plan who becomes re-employed by the Board as a permanent or probationary employee is reinstated as a member.

(4) A person's employment is considered to be terminated by his or her resignation, dismissal with or without just cause, retirement or death.

(5) A person is not considered to be a member or a former member of the pension plan if he or she,

- (a) is not entitled to a deferred pension under the plan;
- (b) is not receiving a pension under the plan; and
- (c) is not entitled to receive another payment under the plan.

CONTRIBUTIONS UNDER THE PENSION PLAN

11. (1) Every member shall contribute to the pension fund from his or her earnings for a year,

- (a) 7 per cent of the amount of his or her earnings that does not exceed the Year's Basic Exemption;
- (b) subject to subsection (4), 5.2 per cent of the amount of his or her earnings that exceeds the Year's Basic Exemption but does not exceed the Year's Maximum Pensionable Earnings; and
- (c) subject to subsection (2), 7 per cent of the amount of his or her earnings that exceeds the Year's Maximum Pensionable Earnings.

(2) The member shall not contribute an amount under subsection (1) greater than the maximum permissible contribution determined under subsection 8503 (4) of the *Income Tax Regulations* (Canada).

(3) For the purposes of subsection (1), the member's earnings for a year shall be deemed to exclude the amount, if any, that exceeds the amount calculated using the formula,

$$50 \times (A + B)$$

in which,

"A" equals 0.7 per cent of the Year's Maximum Pensionable Earnings; and

"B" equals \$1,722.22 adjusted by the ratio described in subsection 27 (8).

(4) If a member continues to be employed by the Board after his or her normal retirement date and is receiving a retirement pension under the *Canada Pension Plan*, the amount the member shall contribute under clause (1) (b) is 7 per cent of the amount of his or her earnings that exceeds the Year's Basic Exemption but does not exceed the Year's Maximum Pensionable Earnings.

(5) The member's contributions are to be deducted from his or her earnings for each pay period and remitted to the pension fund by the Board.

(6) Despite subsections (1) and (5), from January 1, 1998 to December 31, 1998, both inclusive, member contributions under subsection (1) shall be suspended and no deductions shall be made from a member's earnings under subsection (5) during that period.

12. (1) The Board shall contribute to the pension fund such amounts as are necessary to pay the cost of pension benefits and ancillary benefits under the pension plan.

(2) The amount of the Board's contributions shall be determined on the basis of valuations made by the actuary and approved by the Board.

(3) Subject to subsection 16 (2), the Board's contribution in a month shall not be less than the minimum amount, as determined by the actuary, that is required under the *Pension Benefits Act* to pay the normal cost of the pension plan and liquidate any going concern unfunded liabilities or solvency deficiencies.

PENSIONABLE SERVICE

13. (1) A member accrues pensionable service under the pension plan for the time in respect of which contributions to the pension fund are made by or on behalf of the member.

(2) A member who continues to be employed by the Board after his or her normal retirement date continues to accumulate pensionable service for contributions under the plan for the period of employment after the normal retirement date.

(3) A former member who becomes re-employed by the Board accumulates pensionable service for contributions under the plan for the period of re-employment.

14. (1) This section applies with respect to a member who,

(a) is suffering from a physical or mental impairment that prevents the member from performing the duties of the employment in which he or she was engaged before the commencement of the impairment; and

(b) is receiving benefits under the long-term disability plan as a result of an impairment incurred on or after October 1, 1974.

(2) During the period that the member is receiving benefits under the long-term disability plan and remains an employee of the Board, the Board shall make both the Board and the member contributions to the pension plan.

(3) For the purposes of this Regulation, the member's earnings shall be deemed to be increased each year in accordance with the following rules:

1. The earnings are increased as of January 1 each year, beginning when the member begins to receive benefits under the long-term disability plan and ending when payment of the member's pension under the plan begins. However, no increase shall be made in respect of a period before January 1, 1992.

2. The earnings are increased in accordance with the indexing factor described in paragraphs 4, 5 and 6 for the year.

3. Despite paragraph 2, the increased earnings for a year cannot exceed the maximum amount determined under paragraph 7.

4. The indexing factor for a year is 75 per cent of the percentage change in the Consumer Price Index for Canada for all items, for the twelve-month period ending October 31 of the previous year, as published by Statistics Canada. If the change in the Consumer Price Index is negative the indexing factor is zero.

5. If the indexing factor for a year is greater than 8 per cent, it is deemed to be 8 per cent.

6. If the indexing factor for a year is greater than 8 per cent, the amount by which it exceeds 8 per cent is carried forward and added to the indexing factor for one or more subsequent years until the subsequent indexing factor is increased to 8 per cent.

7. The maximum amount of increased earnings for a year is calculated using the formula " $A \times B/C$ " in which,

"A" equals the person's earnings when he or she qualified for benefits under the long-term disability plan,

"B" equals the average wage as defined in subsection 147.1 (1) of the *Income Tax Act* (Canada) for the year, and

"C" equals the average wage for the year in which the person qualified for benefits under the long-term disability plan.

REFUND OF CONTRIBUTIONS

15. (1) A former member who is entitled to a pension benefit is entitled to be paid from the pension fund a lump sum equal to the amount by which his or her contributions made on or after the January 1, 1987, with interest, exceed one-half of the commuted value of his or her pension or deferred pension in respect of the contributory benefits accrued after that date.

(2) In determining the commuted value of the pension or deferred pension under subsection (1), money or credits transferred from the pension plan to another pension plan are excluded.

(3) The following are included in determining the contributory benefits under subsection (1):

1. Ancillary benefits related to employment on or after January 1, 1987.

2. Increases to pension benefits and ancillary benefits resulting from an amendment to the pension plan made on or after January 1, 1987, relating to employment before the date of the amendment, but excluding any portion of the benefits which is based upon pensionable service before the January 1, 1987.

USE OF SURPLUS

16. (1) This section provides for the use of an amount in the pension fund that is surplus to the requirements of the pension plan while it continues in existence or upon its winding up.

(2) The surplus shall be applied to reduce the contributions of the Board under the pension plan in a month to an amount not greater than the maximum contribution that is an eligible contribution under subsection 147.2 (2) of the *Income Tax Act* (Canada) and may be applied to further reduce the contributions of the Board if such maximum is greater than zero.

(3) The surplus may be applied to enhance the benefits provided to members and former members to the extent permitted under the *Income Tax Act* (Canada).

PART III TERMINATION OF EMPLOYMENT OTHER THAN BY RETIREMENT OR DEATH

17. A person who ceases to be a member of the pension plan before completing 24 months of continuing membership shall be given a refund of his or her contributions to the pension fund, with interest, in lieu of other benefits under the plan.

18. (1) A person who ceases to be a member of the pension plan after a continuous period of 24 months of membership but before completing 10 years of membership is entitled to the pension and the payment described in this section.

(2) The person is entitled to a deferred pension with respect to his or her pensionable service after December 31, 1986.

(3) The person is entitled to a lump sum payment equal to his or her contributions made before January 1, 1987, with interest.

19. (1) A person who ceases to be a member of the pension plan after completing 10 years of membership but before reaching 45 years of age is entitled to the pension and the payment described in this section.

(2) The person is entitled to a deferred pension with respect to his or her pensionable service after December 31, 1986.

(3) The person may elect to receive either,

- (a) a deferred pension with respect to his or her pensionable service accrued before January 1, 1987; or
- (b) a lump sum payment equal to his or her contributions made before January 1, 1987, with interest.

20. (1) A person who ceases to be a member of the pension plan after completing 10 years of membership and who is at least 45 years of age when he or she ceases to be a member is entitled to the pension and the payment described in this section.

(2) The person is entitled to a deferred pension based upon all of his or her pensionable service.

(3) Despite subsection (2), with respect to the portion of the person's deferred pension that is based on pensionable service accrued before January 1, 1987, the person may elect to receive 75 per cent of its commuted value in the form of a deferred pension and 25 per cent in the form of a lump sum payment.

21. (1) This section applies if the pension otherwise payable under the pension plan to a former member at the normal retirement date is 2 per cent or less of the Year's Maximum Pensionable Earnings in the year in which the person becomes a former member.

(2) The former member is entitled to be paid the commuted value of his or her benefits under the pension plan in lieu of receiving those benefits.

22. A person entitled to make an election under this Part who does not do so within 90 days after being notified by the Board of his or her option to make the election is deemed to have elected,

- (a) to receive a deferred pension payable on his or her normal retirement date, if he or she is entitled to such a deferred pension; or
- (b) to a refund of contributions, with interest, if he or she is not entitled to receive a deferred pension.

PART IV PENSIONS

RETIREMENT

23. A person's normal retirement date is the first day of the month following the month in which the person reaches 65 years of age.

ENTITLEMENT TO A NORMAL RETIREMENT PENSION

24. (1) A normal retirement pension begins on the person's normal retirement date.

(2) A person who remains an employee of the Board after the normal retirement date shall begin to receive payment of a retirement pension under the pension plan on the date that is the earlier of,

- (a) the first day of the month following the date on which the person terminates employment with the Board; or
- (b) the last day of the year in which the person reaches 69 years of age.

25. (1) A person is not entitled to receive more than one retirement pension under the pension plan in respect of the same period of pensionable service.

(2) A person receiving a disability pension under the pension plan is not eligible to receive a retirement pension.

26. (1) A former member receiving a pension under the pension plan who becomes re-employed by the Board as a permanent or probationary employee is not entitled to receive a retirement pension during the period he or she is so employed.

(2) If the re-employed pensioner receives a payment under the pension plan while he or she is employed by the Board, he or she is not entitled to further payments under the pension plan until the amount received is repaid, with interest, to the pension fund.

AMOUNT OF THE NORMAL RETIREMENT PENSION

27. (1) The amount of a person's normal retirement pension is determined in accordance with this section.

(2) A normal retirement pension is payable in equal monthly instalments for the remainder of the life of the person entitled to receive it.

(3) The amount of a person's annual pension is calculated using the formula,

$$(A + B) - C$$

in which,

"A" equals 2 per cent of the person's average annual earnings during the average of the 36 consecutive highest paid months in his or her last 120 months of pensionable service under the pension plan, multiplied by the number of full years and any fraction of a year of pensionable service to December 31, 1965;

"B" equals 2 per cent of the person's average annual earnings during the average of the 60 consecutive highest paid months in his or her last 120 months of pensionable service under the pension plan, multiplied by the number of full years and any fraction of a year of pensionable service as computed from January 1, 1966 or such later date on which the person became a member of the pension plan to the date the person terminated his or her membership; and

"C" equals 0.7 per cent of the average of the annual earnings during the 60 consecutive highest paid months in the person's last 120 months of pensionable service, multiplied by the number of full years and any fraction of a year in pensionable service under the pension plan from January 1, 1966, but not exceeding 35 years of pensionable service, to be calculated on the basis of the lesser of the person's earnings or the Year's Maximum Pensionable Earnings in each year in the averaging period.

(4) When calculating the amount of an annual pension under subsection (3), "C" in the formula does not apply to any period during which the member's contributions were increased under subsection 11 (4).

(5) Despite subsection (3), if the commuted value of the portion of the person's pension with respect to his or her pensionable service before January 1, 1987 is less than the sum of his or her contributions made before that date, with interest up to the date of retirement, the person's pension is increased to the extent necessary to render the commuted value of that portion of the pension equal to the sum of those contributions with interest.

(6) Despite subsection (3), the person's initial pension at retirement is reduced, if necessary, so that it does not exceed the lesser of,

- (a) 2 per cent of the person's indexed final average salary as determined under subsection (7) multiplied by the person's years of pensionable service, excluding service before January 1, 1991 in excess of 35 years; or
- (b) \$1,722.22, adjusted by the ratio described in subsection (8) and multiplied by the person's years of pensionable service, excluding service before January 1, 1991 in excess of 35 years.

(7) The person's indexed final average salary is the average of the person's salary, while he or she was a member of the pension plan, for the three highest non-overlapping periods of 12 consecutive months, multiplied, for each period, by the ratio "A/B" in which,

"A" equals the average industrial wage for the year in which the person retires, and

"B" equals,

- (a) the average industrial wage for the calendar year in which most of the person's earnings for the 12-month period were earned, if that year is 1987 or later, or

- (b) the average industrial wage for 1986, otherwise.

(8) The ratio referred to in clause (6) (b) is,

- (a) 1.0 in the case of a pension that begins before 2005; and
- (b) the ratio of the average industrial wage for the year in which the pension begins to the average industrial wage for 2004, in the case of a pension that begins after 2004.

(9) The average industrial wage for a year is as published by Statistics Canada.

(10) If a person has accumulated less than 60 months of pensionable service under the plan, the total number of months are used to determine the person's average annual earnings.

ENTITLEMENT TO AN EARLY RETIREMENT PENSION

28. (1) A member or former member who is at least 55 years of age and who is entitled to a deferred pension under the pension plan may elect to receive an early retirement pension.

(2) A member whose age, when added to the number of years of his or her continuous membership in the pension plan, totals at least 90 may elect to receive an early retirement pension.

(3) A member who is at least 60 years of age and who has been a member of the pension plan for at least 20 years may elect to receive an early retirement pension.

(4) If a member elects to receive an early retirement pension under subsection (2) or (3), the date on which the member begins to receive the pension is considered to be the member's date of retirement.

(5) A member who elects to receive an early retirement pension under subsection (2) or (3) cannot revoke the election.

(6) A member whose age, when added to the number of years of his or her continuous membership in the pension plan, totals at least 80 may elect to receive an early retirement pension. The election must be made before January 1, 2000.

(7) A member may elect before January 1, 2000 to receive an early retirement pension if,

- (a) the member begins a paid leave of absence before December 31, 1999; and
- (b) the member's age, at the end of the paid leave, when added to the number of years of his or her continuous membership in the pension plan at the end of the paid leave, totals at least 80.

(8) A member who elects to receive an early retirement pension under subsection (6) or (7) cannot revoke the election.

29. A member or former member who qualifies to elect to receive an early retirement pension under section 28 may make the election at any time after the date of qualification but before the normal retirement date and the member or former member shall begin to receive payments under the pension plan on the first day of the month following the date of the election.

AMOUNT OF AN EARLY RETIREMENT PENSION

30. (1) The amount of an early retirement pension under subsection 28 (1) (age 55 with right to deferred pension) is determined in accordance with this section.

(2) The amount of the pension is actuarially reduced in accordance with the person's age at the date the pension begins to be paid as follows:

- 1. The commuted value of the pension must be equal to the commuted value of the person's normal retirement pension, based upon the person's pensionable service up to the date of retirement.
- 2. However, the reduction in the pension must not be less than 0.25 per cent multiplied by the number of months from the date of the first pension payment to the first day of the month following the month in which the person reaches 60 years of age.

(3) The following apply if the person is a member and has at least 10 years of continuous membership in the plan at the date of retirement:

- 1. The amount of the pension, before any actuarial reduction is made under this section, is calculated in the same manner as a normal retirement pension under section 27. However, "C" in the formula does not apply until the person's normal retirement date.
- 2. The actuarial reduction in the pension must not be more than 3 per cent of the normal retirement pension multiplied by the number of whole years and any fraction of a year from the date of retirement to the first date on which the person would have been entitled to a normal retirement pension or to an early retirement pension under subsection 28 (2) or (3), had he or she continued to be an employee until that date.

(4) If the person is a former member or a member who has at least two years but less than 10 years of continuous membership in the pension plan at the date of retirement, the actuarial reduction in the pension must not be more than 5 per cent of the normal retirement pension multiplied by the number of full years and any fraction of a year from the date of retirement to the normal retirement date.

31. (1) The amount of an early retirement pension under the following subsections is determined in accordance with this section:

- 1. Subsection 28 (2) (age plus years of membership equals 90).
- 2. Subsection 28 (3) (60 years old with 20 years' membership).

3. Subsection 28 (6) (age plus years of membership equals 80).
4. Subsection 28 (7) (age plus years of membership equals 80, paid leave situation).

(2) The amount of the pension is calculated in the same manner as a normal retirement pension under section 27. However, "C" in the formula does not apply until the person's normal retirement date.

DISABILITY PENSIONS

32. (1) A member with at least 10 continuous years of membership in the pension plan may apply to receive a disability pension.

(2) Subject to subsection (3), the member is entitled to receive a disability pension if,

- (a) the member is suffering from a physical or mental disability which prevents him or her from engaging in employment for which the member is reasonably suited by reason of education, training or experience;
- (b) the disability can reasonably be expected to last for the remainder of the member's lifetime; and
- (c) a legally qualified medical practitioner selected by the Board certifies that the requirements in clauses (a) and (b) are satisfied.

(3) The member is not entitled to receive a disability pension if the member is receiving benefits under the Board's long-term disability plan.

(4) A member who is entitled to receive a disability pension is entitled to receive payments under the pension plan as of the first day of the month following the date the Board received the application for the disability pension.

(5) The amount of the disability pension is the amount of the member's normal retirement pension, at the date on which the member became disabled, excluding any actuarial discounts otherwise applicable in calculating the amount of the normal retirement pension.

(6) If a former member who is receiving a disability pension becomes re-employed by the Board as a permanent or probationary employee, the former member ceases to be entitled to receive the disability pension.

(7) For the purposes of Part VII, a member receiving a disability pension is considered to be receiving a retirement pension under the pension plan.

PART V PRE-RETIREMENT DEATH BENEFITS

33. If a member dies before completing 24 months of continuous membership in the pension plan, a lump sum equal to the member's contributions to the pension fund, with interest, is payable to the beneficiary designated by the member or, in the absence of a designation, to the member's estate.

34. (1) This section applies if a person who has completed 24 months of continuous membership in the pension plan dies before beginning to receive a retirement pension and,

- (a) the person has no surviving spouse;
- (b) the person is living separate and apart from his or her spouse on the date of death; or

(c) the person leaves a surviving spouse and has completed less than 10 years of pensionable service.

(2) A death benefit is payable,

- (a) to the surviving spouse, if any, if the person was not living separate and apart from the spouse on the date of death;
- (b) to the beneficiary, if any, designated by the person, if the person has no surviving spouse or if the person was living separate and apart from the spouse on the date of death; or
- (c) to the person's estate.

(3) The spouse entitled to a death benefit under clause (2) (a) may elect to receive it in the form of a lump sum or an immediate or deferred pension, the commuted value of which is equal to the commuted value of the death benefit.

(4) The death benefit under clause (2) (b) or (c) is payable in the form of a lump sum.

(5) The commuted value of the death benefit equals the sum of,

- (a) the person's contributions under the pension plan made before January 1, 1987, with interest; and
- (b) the greater of,
 - (i) the person's contributions made after December 31, 1986, with interest, or
 - (ii) the sum of,

(A) the commuted value of a deferred pension calculated in accordance with section 27 but based solely on the person's pensionable service after December 31, 1986, and

(B) the excess, if any, of the amount described in subclause (b) (i) over 50 per cent of the amount described in subclause (b) (ii) (A).

35. (1) This section applies if a person who has completed 24 months of continuous membership in the pension plan dies before beginning to receive a retirement pension and,

- (a) has completed at least 10 years of pensionable service;
- (b) leaves a surviving spouse; and
- (c) was not living separate and apart from the surviving spouse on the date of death.

(2) The surviving spouse is entitled to receive a death benefit, the commuted value of which is the greater of the amount described in subsection (3) or (4).

(3) The first amount is the sum of,

- (a) the person's contributions under the pension plan made before January 1, 1987, with interest; and
- (b) the greater of,
 - (i) the person's contributions made after December 31, 1986, with interest, or
 - (ii) the sum of,

(A) the commuted value of a deferred pension calculated in accordance with section 27 but based only on the

person's pensionable service after December 31, 1986, and

- (B) the excess, if any, of the amount described in subclause (b) (i) over 50 per cent of the amount described in sub-subclause (b) (ii) (A).

(4) The second amount is the commuted value of an immediate pension, payable for life to the person's spouse, equal to the sum of,

- (a) 50 per cent of the pension calculated in accordance with section 27 but based only on the person's pensionable service before January 1, 1987; and
- (b) 60 per cent of the pension calculated in accordance with that section, but based only on the person's pensionable service after December 31, 1986.

(5) The spouse may elect to receive the death benefit in the form of a lump sum or an immediate or deferred pension, the commuted value of which is equal to the commuted value of the death benefit.

36. (1) This section applies if a person who has completed 24 months of continuous membership in the pension plan dies before beginning to receive a retirement pension and,

- (a) has completed at least 10 years of pensionable service;
- (b) leaves no surviving spouse, or leaves a surviving spouse from whom the person is living separate and apart on the date of death; and
- (c) leaves one or more dependent children.

(2) Each dependent child is entitled to an equal share of the children's pension for so long as he or she remains a dependent child.

(3) The aggregate amount of the children's pension is the sum of,

- (a) 50 per cent of the pension calculated in accordance with section 27 but based only on the person's pensionable service before January 1, 1987; and
- (b) 60 per cent of the pension calculated in accordance with that section, but based only on the person's pensionable service after December 31, 1986.

(4) The children's pension becomes payable on the first day of the month following the month in which the person dies.

37. (1) This section applies if a children's pension is payable under section 36 and the commuted value of the death benefit calculated under section 34 is greater than the commuted value of the children's pension.

(2) The excess of the commuted value of the death benefit calculated under section 34 over the commuted value of the children's pension is payable,

- (a) to the beneficiary, if any, designated by the person; or
- (b) in the absence of such a designation, to the person's estate.

PART VI JOINT AND SURVIVOR BENEFITS

JOINT AND SURVIVOR PENSIONS

38. (1) Every pension payable under the pension plan beginning after December 31, 1986 to a former member who has a spouse on the date of retirement is a joint and survivor pension.

(2) The surviving spouse, if any, of the former member is entitled to receive a survivor pension of 60 per cent of the former member's pension for the remaining lifetime of the spouse.

(3) Despite subsection (2), the former member and his or her spouse may elect to have the joint and survivor pension payable in another proportion, with a pension being paid to the former member for his or her lifetime.

(4) The former member and his or her spouse may not elect under subsection (3) to have the survivor pension be less than 50 per cent or more than 100 per cent of the pension paid to the former member during his or her lifetime.

(5) An election must be made in writing before the former member's pension begins.

(6) The commuted value of the former member's pension and the survivor pension under this section must equal the commuted value of the former member's normal retirement pension otherwise payable for the lifetime of the former member with a 60 per cent survivor pension payable to the former member's spouse.

(7) Every joint and survivor pension being paid under the pension plan on January 1, 1998 shall be increased, if necessary, as if subsections (2) and (6) had been in force on the date that the former member began to receive a pension under the pension plan.

DEATH AFTER RETIREMENT

39. (1) A survivor pension is payable only to the person who is the spouse of the former member on the date of his or her retirement.

(2) Despite subsection (1), a former member who acquires a spouse after beginning to receive a pension may elect to have his or her retirement pension paid as a joint and survivor pension if,

- (a) the former member did not have a spouse on his or her retirement date; or
- (b) the former member had a spouse on his or her retirement date and that spouse has died and there are no dependent children entitled to benefits under section 40.

(3) An election must be made in writing within the six-month period beginning one year after the former member acquires the spouse.

(4) The former member's pension shall be reduced so that the commuted value of the former member's pension (as reduced) and the survivor pension under this section equals the commuted value of the former member's pension before the reduction.

(5) The actuarial reduction of the former member's pension under subsection (4) is based upon the ages of the former member and the former member's spouse on the last day of the month in which the former member's election is received by the Board.

40. (1) This section applies if a spouse otherwise entitled to a survivor pension predeceases the former member after the former member begins receiving a pension.

(2) The amount of the survivor pension otherwise payable to the deceased spouse becomes payable to any dependent children of the former member who are alive when the former member dies.

(3) Each child's share of the children's survivor pension accrues to the remaining dependent children, if any, when the child ceases to be a dependent child.

41. (1) This section applies when a former member who is receiving a pension dies leaving no surviving spouse or dependent children.

(2) The beneficiary, if any, designated by the former member or, if no beneficiary is designated, the former member's estate is entitled to receive the amount described in subsection (3).

(3) The amount is the excess, if any, of the former member's contributions under the pension plan, with interest calculated to his or her date of retirement, over any pension payments received by the former member.

42. (1) This section applies when a former member who is receiving a pension dies, and his or her surviving spouse or dependent child who is receiving a survivor pension also dies.

(2) The former member's estate is entitled to receive the excess, if any, of the former member's contributions under the pension plan, with interest calculated to his or her date of retirement, over any pension payments received by the former member, the surviving spouse or the dependent child.

43. If more than one person is entitled to a survivor pension, the amount of the pension payable in the aggregate to the entitled persons must not exceed the amount of the pension that would have been payable to one surviving spouse.

PART VII ANNUAL INCREASES IN PENSION BENEFITS

44. (1) A pension being calculated under subsection 27 (3) is increased as of January 1 each year in accordance with section 45.

(2) A deferred pension payable under the pension plan is increased as of January 1 each year in accordance with section 45 beginning when the person entitled to the pension ceases to be a member of the plan and ending when payment of the pension begins.

(3) A deferred pension shall not be increased under subsection (2) to an amount that exceeds the amount determined under subsection 27 (6).

(4) No increase shall be made in a pension or a deferred pension in respect of a period before January 1, 1992.

45. (1) A pension being calculated under subsection 27 (3) or deferred pension is increased each year as of January 1 in accordance with the indexing factor for the year determined under this section.

(2) The indexing factor for a year is 75 per cent of the percentage change in the Consumer Price Index for Canada for all items, for the 12-month period ending October 31 of the previous year, as published by Statistics Canada. If the change in the Consumer Price Index is negative the indexing factor is zero.

(3) If the indexing factor for a year is greater than 8 per cent, it is deemed to be 8 per cent for the purposes of subsection (1).

(4) If the indexing factor for a year is greater than 8 per cent, the amount by which it exceeds 8 per cent is carried forward and added to the indexing factor for one or more subsequent years until the subsequent indexing factor is increased to 8 per cent.

PART VIII PURCHASING PENSIONABLE SERVICE

GENERAL

46. (1) Subject to subsection (2), a member may not purchase pensionable service under the pension plan for a period of employment for which the member has transferred money from a pension fund,

- (a) to a registered pension plan or a locked-in registered pension plan;
- (b) to a locked-in registered retirement savings plan; or
- (c) for the purchase of a life annuity payable not earlier than the date on which the member would have been entitled to receive a pension under this pension plan.

(2) A member may purchase pensionable service under the pension plan for a period of employment with the Board for which the member previously transferred money from the pension fund to a locked-in plan described in clause (1) (a) or (b) if the amount necessary to purchase the service is transferred directly from the locked-in plan to the pension fund.

47. (1) A member may elect to purchase pensionable service under the pension plan for a period of employment with the Board for which the member does not already have credit under the plan.

(2) The member shall make contributions in the amount determined by the actuary in accordance with generally accepted actuarial principles.

48. (1) A member who was employed by the Board as a probationary employee before January 1, 1987 may elect to purchase pensionable service under the pension plan for the period of probationary employment.

(2) The member shall make contributions in the amount determined by the actuary based upon his or her current salary and the contribution rate for members, plus interest.

PURCHASE FOR A LEAVE OF ABSENCE

49. (1) A member who takes a leave of absence without earnings because of illness or disability may elect to purchase pensionable service under the pension plan for the period of the leave if,

- (a) during the leave, the member suffers from a physical or mental illness or disability that prevents the member from performing the duties of the employment in which the member was engaged before the commencement of the illness or disability; and
- (b) a legally qualified medical practitioner certifies to the administrator of the pension plan that the member has such an illness or disability.

(2) A member is not eligible to purchase under this section a period of pensionable service greater than five years less the sum of all periods of pensionable service previously purchased by him or her under this section or section 50 or under section 51 or 52 of Ontario Regulation 753/91 as it read before January 1, 1998.

(3) An election under subsection (1) must be made within the six-month period beginning on the date that the member returns to work.

(4) The member shall make contributions equal to the amount he or she would have contributed to the pension plan had the leave not been taken.

(5) The member shall make the contributions under subsection (4) within the six-month period beginning on the date that the member returns to work.

(6) If the member makes an election under subsection (1) and makes the contributions under subsection (4), the Board shall make the Board's contributions with respect to the member for the period of the leave.

(7) Despite subsections (3), (4) and (5), the member may elect to purchase the pensionable credit after the end of the six-month period and shall make contributions in the amount determined by the actuary in accordance with generally accepted actuarial principles.

50. (1) A member who takes a leave of absence without earnings for special or educational purposes may elect to purchase pensionable service under the pension plan for the period of the leave.

(2) A member is not eligible to purchase under this section a period of pensionable service greater than five years less the sum of all periods of pensionable service previously purchased by him or her under this section or section 49 or under section 51 or 52 of Ontario Regulation 753/91 as it read before January 1, 1998.

(3) An election under subsection (1) must be made within a period of the same duration as the leave of absence, beginning on the date that the member returns to work.

(4) The member shall make contributions equal to the amount he or she would have contributed to the pension plan had the leave not been taken plus the amount that the Board would have been credited as having contributed on his or her behalf for the same period.

(5) The member shall make the contributions under subsection (4) within a period of the same duration as the leave of absence, beginning on the date that the member returns to work.

(6) Despite subsections (3), (4) and (5), the member may elect to purchase the pensionable credit after the end of the period described in subsection (5) and shall make contributions in the amount determined by the actuary in accordance with generally accepted actuarial principles.

51. (1) A member who takes a leave of absence for pregnancy or parental purposes may elect to purchase pensionable service under the pension plan for any period of the leave during which the member has no earnings.

(2) A member is not eligible to purchase under this section a period of pensionable service greater than the lesser of,

(a) 12 months; and

(b) 36 months less the sum of all periods of pensionable service previously purchased by him or her under this section or under section 53 of Ontario Regulation 753/91 as it read before January 1, 1998.

(3) An election under subsection (1) may be made,

(a) before commencing the leave of absence;

(b) during the period, beginning on the date that the member returns to work, of the same duration as the leave of absence or of six months if the leave of absence was less than six months; or

(c) after the end of the period described in clause (b).

(4) If the election is made in accordance with clause (3) (a), the member shall continue to make contributions during any period of the leave for which the member has no earnings and the Board shall continue to make the Board's contributions with respect to the member during the same period.

(5) If the election is made in accordance with clause (3) (b), the member shall make contributions equal to the amount he or she would have contributed to the pension plan had the leave not been taken plus the amount that the Board would have been credited as having contributed on his or her behalf for the same period and the member shall pay the contributions within the period described in clause (3) (b).

(6) If the election is made in accordance with clause (3) (c), the member shall make contributions in the amount determined by the actuary in accordance with generally accepted actuarial principles.

52. A member is not eligible to purchase pensionable service under section 49, 50 or 51 in respect of a period for which,

(a) defined benefits are provided to him or her under another registered pension plan; or

(b) contributions are made by or on behalf of him or her under a money purchase provision of a registered pension plan or to a deferred profit sharing plan.

53. For the purpose of subsection 50 (4) or 51 (5), the amount that the Board would have been credited as having contributed shall be determined by the Board on the basis of the most recent actuarial valuation.

PURCHASE FOR ACTIVE MILITARY SERVICE

54. (1) A member may elect to purchase pensionable service under the pension plan respecting his or her active service during World War II or the Korean War,

(a) in His or Her Majesty's navy, army or air force or in the Canadian or British Merchant Marine; or

(b) in a navy, army or air force that was allied with His or Her Majesty's forces.

(2) The member shall make contributions based upon the person's current salary and a contribution rate equal to twice the contribution rate for members, plus interest.

(3) In this section,

"active service" has the same meaning as in the *National Defence Act* (Canada).

TRANSFERRING PENSIONABLE SERVICE IN FROM ANOTHER PENSION PLAN

55. (1) This section applies with respect to a person who becomes employed by the Board within 18 months after ceasing to be employed by one of the following:

1. The public service of Canada or of a province or territory of Canada.

2. The civic service of a municipality in Ontario.

3. A board, commission or public institution established under an Act of the Legislature of Ontario.

4. A Crown corporation of Canada or of a province or territory of Canada.

5. A university in Ontario or a college of applied arts and technology to which the *Ministry of Colleges and Universities Act* applies.

6. The Canadian armed forces.

7. The practising clergy contributing to a registered pension plan sponsored by the person's religious denomination.

8. A government, municipality, board, commission or public institution with which the Board has entered into a reciprocal agreement under subsection 171 (7) of the Act.

(2) A person who is a member of the pension plan may elect to transfer pensionable service from an organization described in subsection (1).

(3) The amount of pensionable service that is transferred under subsection (2), and the amount of money to be contributed in respect of the service, is determined by the actuary in accordance with generally accepted actuarial principles.

(4) The amount of money that is transferred to the pension fund in connection with a transfer under subsection (2) is deemed to be the person's contributions under the pension plan.

(5) A person is not eligible to be credited with pensionable service under the pension plan if the person remains entitled to credit for the same pensionable service under the other pension plan.

(6) Despite subsections (2) to (4), if a person transfers pensionable service from a registered pension plan of an organization with whom the Board has concluded a reciprocal agreement, the transfer is made in accordance with the terms of the agreement.

PART IX MISCELLANEOUS

56. (1) No right of a person under the pension plan is capable of being assigned, charged, anticipated, given as security or surrendered except by an order under the *Family Law Act* or by a domestic contract as defined in Part IV of that Act.

(2) Despite subsection (1), a right of a person under the pension plan may be surrendered for the purpose of reducing benefits in order to avoid the revocation of the registration of the pension plan under the *Income Tax Act* (Canada).

PART X TRANSITION, REVOCATION AND COMMENCEMENT

57. Ontario Regulation 753/91, as it reads immediately before this Regulation comes into force, continues to apply with respect to rights and benefits accrued or vested under the pension plan before January 1, 1998.

58. Ontario Regulations 753/91, 898/93, 292/96 and 454/97 are revoked.

59. This Regulation comes into force on January 1, 1998.

WORKERS' COMPENSATION BOARD:

GLEN WRIGHT
Chair

LINDA ANGOVE
Secretary

Dated on December 3, 1997.

52/97

ONTARIO REGULATION 456/97 made under the WORKPLACE SAFETY AND INSURANCE ACT, 1997

Made: December 3, 1997
Approved: December 10, 1997
Filed: December 11, 1997

FUNCTIONAL ABILITIES FORM

1. (1) The Form is prescribed for the purposes of subsection 37 (3) of the Act.

(2) The information required to complete the Form is prescribed for the purposes of subsection 37 (3) of the Act.

2. This Regulation comes into force on January 1, 1998.

Form
Workplace Safety and Insurance Act, 1997

[illegible]

25476 (10/97)

White - Employer

Canary - WSIB

Pink - Worker

Goldenrod - Health Professional

WORKERS' COMPENSATION BOARD:

GLEN WRIGHT
Chair

LINDA ANGOVE
Secretary

Dated on December 3, 1997.

52/97

ONTARIO REGULATION 457/97
made under the
PUBLIC SECTOR LABOUR
RELATIONS TRANSITION ACT, 1997

Made: December 10, 1997

Filed: December 11, 1997

CONSTRUCTION WORK

1. (1) If a predecessor employer was a municipality or a school board and a construction union had bargaining rights with respect to a bargaining unit of that employer that contained or would have contained employees who performed construction work, the following apply:

1. The description of the bargaining unit of the successor employer referred to in subsection 14 (1) of the Act shall not include, or be changed under section 22 of the Act to include, employees who perform construction work outside the geographic jurisdiction of the predecessor employer unless the successor employer agrees.
2. Despite sections 15 and 24 of the Act, a collective agreement that bound the predecessor employer immediately before the changeover date does not bind the successor employer with respect to construction work performed outside the geographic jurisdiction of the predecessor employer unless the successor employer agrees.

(2) For the purposes of this section, two or more predecessor employers shall be deemed to be a single predecessor employer if each of them had a bargaining unit containing employees who performed construction work and,

- (a) the same construction union had bargaining rights with respect to each of the bargaining units; or
- (b) construction unions that are affiliated bargaining agents subordinate or directly related to the same provincial, national or international trade union had bargaining rights with respect to the bargaining units.

2. Sections 31 and 32 of the Act do not apply with respect to a provincial agreement as defined in section 151 of the *Labour Relations Act, 1995*.

52/97

ONTARIO REGULATION 458/97
made under the
PUBLIC SECTOR LABOUR
RELATIONS TRANSITION ACT, 1997

Made: December 10, 1997

Filed: December 11, 1997

APPLICATION OF THE ACT

1. (1) The Act applies upon the occurrence of the following events:

1. The dissolution of the public utilities commission of The Corporation of the Town of Thornbury and the assumption by The Corporation of the Town of Thornbury-Collingwood of the powers and authority of the dissolved public utilities commission.
2. The dissolution of the public utilities commission of The Corporation of the Village of Watford and the assumption by The Cor-

poration of the Township of Warwick of the powers and authority of the dissolved public utilities commission.

3. The dissolution of the public utilities commissions of The Corporation of the Town of Amherstburg and The Corporation of the Township of Malden and the assumption by the hydro-electric commission of The Corporation of the Town of Amherstburg of the powers and authority of the dissolved public utilities commissions respecting the distribution and supply of electrical power.
4. The dissolution of the public utilities commission of The Corporation of the Town of Picton and the assumption by The Corporation of the County of Prince Edward of the powers and authority of the dissolved public utilities commission.
5. The dissolution of the Rodney Public Utilities Commission and the public utilities commission of The Corporation of the Village of West Lorne and the assumption by the hydro-electric commission of The Corporation of the Municipality of West Elgin of the powers and authority of the dissolved public utilities commissions respecting the distribution and supply of electrical power.
6. The dissolution of the public utilities commission of The Corporation of the Village of Dutton and the assumption by The Corporation of the Municipality of Dutton/Dunwich of the powers and authority of the dissolved public utilities commission.
7. The dissolution of the public utilities commissions of The Corporation of the Village of Belmont and The Corporation of the Village of Port Stanley and the assumption by The Corporation of the Municipality of Central Elgin of the powers and authority of the dissolved public utilities commissions.
8. The dissolution of the public utilities commission of The Corporation of the Village of Springfield and the assumption by The Corporation of the Township of Malahide of the powers and authority of the dissolved public utilities commission.

(2) For the purposes of the Act, for the events described in subsection (1),

- (a) the predecessor employers are the public utility commissions that are dissolved;
- (b) the successor employers are the municipalities and hydro-electric commissions that assume the power and authority of the dissolved public utilities commissions;
- (c) the changeover date for each event is January 1, 1998.

2. (1) The Act applies upon the occurrence of the following events:

1. The transfer of responsibility to construct and maintain roads from The Corporation of the County of Lennox and Addington to The Corporation of the Township of Stone Mills.
2. The transfer of responsibility to construct and maintain roads from The Corporation of the County of Lennox and Addington to The Corporation of the Town of Greater Napanee.
3. The transfer of responsibility to construct and maintain roads from The Corporation of the County of Lennox and Addington to The Corporation of Loyalist Township.
4. The transfer of responsibility to construct and maintain roads from The Corporation of the County of Elgin to The Corporation of the Municipality of West Elgin.
5. The transfer of responsibility to construct and maintain roads from The Corporation of the County of Elgin to The Corporation of the Municipality of Dutton/Dunwich.

6. The transfer of responsibility to construct and maintain roads from The Corporation of the County of Elgin to The Corporation of the Municipality of Central Elgin.
7. The transfer of responsibility to construct and maintain roads from The Corporation of the County of Elgin to The Corporation of the Township of Malahide.
8. The transfer of responsibility to construct and maintain roads from The Corporation of the County of Elgin to The Corporation of the Municipality of Bayham.

(2) For the purposes of the Act, for the events described in subsection (1),

- (a) the predecessor employers are the municipalities from which responsibility is transferred;
- (b) the successor employers are the municipalities to which responsibility is transferred;
- (c) the changeover date for each event is January 1, 1998.

52/97

ONTARIO REGULATION 459/97
made under the
MINING ACT

Made: December 10, 1997
Filed: December 11, 1997

Amending O. Reg. 113/91
(General)

Note: Ontario Regulation 113/91 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Sections 3, 4 and 5 of Ontario Regulation 113/91 are revoked and the following substituted:

3. The annual rental for a lease or renewal lease under section 81 of the Act is \$3 per hectare whether the lease be of both mining rights and surface rights or of mining rights only.

4. The annual rental for a lease or renewal lease under section 82 of the Act is \$3 per hectare whether the lease be of both mining rights and surface rights or of mining rights only.

5. The annual rental for a lease or renewal lease of surface rights under section 84 of the Act is \$3 per hectare.

2. This Regulation comes into force on January 1, 1998.

52/97

ONTARIO REGULATION 460/97
made under the
EDUCATION ACT

Made: December 10, 1997
Filed: December 11, 1997

**TRANSITION FROM OLD BOARDS TO
DISTRICT SCHOOL BOARDS**

**PART I
DEFINITIONS**

1. In this Regulation,

“assets” includes real and personal property; (“éléments d’actifs”)

“assets, liabilities and employees” associated with an old board means,

- (a) the assets and liabilities that the designated board associated with the old board acquired as a result of the merger under section 2 of the old board with the designated board, and

RÈGLEMENT DE L'ONTARIO 459/97
pris en application de la
LOI SUR LES MINES

pris le 10 décembre 1997
déposé le 11 décembre 1997

modifiant le Règl. de l'Ont. 113/91
(Dispositions générales)

Remarque : Le Règlement de l'Ontario 113/91 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. Les articles 3, 4 et 5 du Règlement de l'Ontario 113/91 sont abrogés et remplacés par ce qui suit :

3. Le loyer annuel du bail ou du bail reconduit prévu à l'article 81 de la Loi est de 3 \$ l'hectare, que le bail soit pour les droits miniers et les droits de surface ou pour les droits miniers seulement.

4. Le loyer annuel du bail ou du bail reconduit prévu à l'article 82 de la Loi est de 3 \$ l'hectare, que le bail soit pour les droits miniers et les droits de surface ou pour les droits miniers seulement.

5. Le loyer annuel du bail ou du bail reconduit des droits de surface prévu à l'article 84 de la Loi est de 3 \$ l'hectare.

2. Le présent règlement entre en vigueur le 1^{er} janvier 1998.

RÈGLEMENT DE L'ONTARIO 460/97
pris en application de la
LOI SUR L'ÉDUCATION

pris le 10 décembre 1997
déposé le 11 décembre 1997

**TRANSITION DES ANCIENS CONSEILS AUX
CONSEILS SCOLAIRES DE DISTRICT**

**PARTIE I
DÉFINITIONS**

1. Les définitions qui suivent s'appliquent au présent règlement.

«Commission» La Commission d'amélioration de l'éducation. («Commission»)

«conseil désigné» S'agissant du conseil désigné qui est rattaché à un ancien conseil, s'entend du conseil scolaire de district mentionné dans la colonne 2 de l'annexe 1 en regard de l'ancien conseil mentionné dans la colonne 1 de la même annexe. («designated board»)

- (b) the employees who were transferred under section 2 from the old board to the designated board associated with the old board; («éléments d'actif, éléments de passif et employés»)

“Commission” means Education Improvement Commission; (“Commission”)

“designated board” associated with an old board means the district school board that is listed in column 2 of Schedule 1, opposite the old board listed in column 1 of Schedule 1; (“conseil désigné”)

“supported board” associated with an old board means the district school board that is listed in column 3 of Schedule 1, opposite the old board listed in Column 1 of Schedule 1. (“conseil secondé”)

PART II MERGER OF OLD BOARDS WITH DISTRICT SCHOOL BOARDS AND RELATED EMPLOYEE TRANSFERS

2. Effective January 1, 1998,

- (a) each employee of each old board listed in column 1 of Schedule 1 is transferred to the district school board listed opposite in column 2 of Schedule 1; and
- (b) immediately after the transfer under clause (a), each old board listed in column 1 of Schedule 1 is merged with and continued as the district school board listed opposite in column 2 of Schedule 1.

PART III INTERIM ROLE OF DESIGNATED BOARD

3. (1) Until an order under this Regulation determining the disposition of an asset, liability or employee associated with an old board takes effect, the designated board associated with the old board shall manage the asset, liability or employee.

(2) Where a designated board is required to manage assets, liabilities or employees under subsection (1), it shall do so for and on behalf of,

- (a) itself; and
- (b) the supported board associated with the old board.

4. (1) The designated board associated with an old board shall exercise the powers and carry out the duties of the supported board associated with the old board as necessary in order to,

- (a) provide continuity in the education of pupils who have the right to attend schools governed by the supported board; and
- (b) permit a smooth transition from governance by the old board to governance by the district school boards.

(2) The designated board shall not exercise any power or carry out any duty of the supported board under this section after the earlier of,

- (a) December 31, 1998; and

«conseil secondé» S'agissant du conseil secondé qui est rattaché à un ancien conseil, s'entend du conseil scolaire de district mentionné dans la colonne 3 de l'annexe 1 en regard de l'ancien conseil mentionné dans la colonne 1 de la même annexe. («supported board»)

«éléments d'actif» S'entend notamment des biens meubles et immeubles. («assets»)

«éléments d'actif, éléments de passif et employés» S'agissant des éléments d'actif, des éléments de passif et des employés rattachés à un ancien conseil, s'entend de ce qui suit :

- a) les éléments d'actif et les éléments de passif que le conseil désigné qui est rattaché à l'ancien conseil a acquis par suite de la fusion de l'ancien conseil et du conseil désigné aux termes de l'article 2;
- b) les employés mutés, aux termes de l'article 2, de l'ancien conseil au conseil désigné qui lui est rattaché. («assets, liabilities and employees»)

PARTIE II FUSION DES ANCIENS CONSEILS ET DES CONSEILS SCOLAIRES DE DISTRICT ET MUTATIONS CONNEXES DES EMPLOYÉS

2. À partir du 1^{er} janvier 1998 :

- a) chaque employé de chaque ancien conseil mentionné dans la colonne 1 de l'annexe 1 est muté au conseil scolaire de district mentionné en regard dans la colonne 2 de la même annexe;
- b) immédiatement après la mutation prévue à l'alinéa a), chaque ancien conseil mentionné dans la colonne 1 de l'annexe 1 et le conseil scolaire de district mentionné en regard dans la colonne 2 de la même annexe fusionnent et sont prorogés en ce conseil scolaire de district.

PARTIE III RÔLE PROVISOIRE DU CONSEIL DÉSIGNÉ

3. (1) Le conseil désigné qui est rattaché à un ancien conseil gère les éléments d'actif, les éléments de passif et les employés rattachés à l'ancien conseil jusqu'à ce qu'une ordonnance déterminant leur affectation, prise aux termes du présent règlement, prenne effet.

(2) Le conseil désigné qui est tenu de gérer des éléments d'actif, des éléments de passif ou des employés aux termes du paragraphe (1) le fait :

- a) d'une part, pour lui-même et en son nom;
- b) d'autre part, pour le conseil secondé qui est rattaché à l'ancien conseil et au nom du conseil secondé.

4. (1) Le conseil désigné qui est rattaché à un ancien conseil exerce les pouvoirs et fonctions nécessaires du conseil secondé qui est rattaché à l'ancien conseil aux fins suivantes :

- a) éviter toute interruption de l'enseignement dispensé aux élèves qui ont le droit de fréquenter les écoles que gère le conseil secondé;
- b) assurer la transition sans heurts d'une gestion assurée par l'ancien conseil à une gestion assurée par les conseils scolaires de district.

(2) Le conseil désigné ne doit pas exercer quelque pouvoir ou fonction que ce soit du conseil secondé aux termes du présent article après la première des dates suivantes :

- a) le 31 décembre 1998;

- (b) a date specified for the purposes of this subsection by the Commission in relation to the designated board and the supported board, in a written notice to the two boards.

5. (1) For the purposes of sections 3 and 4, in order to ensure that the governance role of the supported board associated with an old board is respected as required by subsection 58.2.1 (7) of the Act, the designated board associated with the old board shall,

- (a) be guided by the principles underlying sections 312, 318 and 325 of the Act, as it read immediately before January 1, 1998; and
- (b) follow any directives issued by the Commission under subsection (2).

(2) The Commission may issue directives to district school boards respecting how the requirements of the following provisions are to be met:

- 1. Subsection (1) of this section.
- 2. Sections 3 and 4.
- 3. Subsection 58.2.1 (7) of the Act.

(3) In issuing a directive under subsection (2), the Commission shall be guided by the principles underlying sections 312, 318 and 325 of the Act, as it read immediately before January 1, 1998.

6. (1) This section applies where,

- (a) on December 31, 1997, there is an agreement in effect between two old boards; and
- (b) on January 1, 1998, the old boards are merged with district school boards.

(2) Until January 1, 1999, the district school boards referred to in clause (1) (b) may not amend or revoke the agreement referred to in clause (1) (a) without the prior written approval of the Commission.

(3) The Commission shall not give the approval without giving each district school board with an interest in the agreement an opportunity to make representations to the Commission.

PART IV ORDERS ON JOINT REQUEST

JOINT REQUEST FOR ORDER

7. (1) The supported board associated with an old board and the designated board associated with the old board may jointly request, in writing, that the Commission make an order with respect to any asset, liability or employee associated with the old board.

(2) A joint request may be made under subsection (1) at any time before the Commission makes an order under this Regulation determining the disposition of the asset, liability or employee.

(3) A joint request may be in respect of any group of assets, liabilities and employees associated with one or more old boards with which both the designated board and the supported board are associated.

(4) The joint request must identify the assets, liabilities and employees that are the subject of the request and, with respect to each, state whether the asset, liability or employee should be transferred to the supported board or remain with the designated board.

- b) la date que précise la Commission pour l'application du présent paragraphe à l'égard du conseil désigné et du conseil secondé dans un avis écrit qu'elle donne à chacun d'eux.

5. (1) Pour l'application des articles 3 et 4, afin de veiller à ce que les fonctions de gestion du conseil secondé qui est rattaché à un ancien conseil soient respectées comme l'exige le paragraphe 58.2.1 (7) de la Loi, le conseil désigné qui est rattaché à l'ancien conseil fait ce qui suit :

- a) il se laisse guider par les principes qui sous-tendent les articles 312, 318 et 325 de la Loi, telle qu'elle existait immédiatement avant le 1^{er} janvier 1998;
- b) il suit les directives que donne la Commission en vertu du paragraphe (2).

(2) La Commission peut donner des directives aux conseils scolaires de district sur la façon dont les exigences des dispositions suivantes doivent être respectées :

- 1. Le paragraphe (1) du présent article.
- 2. Les articles 3 et 4.
- 3. Le paragraphe 58.2.1 (7) de la Loi.

(3) Lorsqu'elle donne une directive en vertu du paragraphe (2), la Commission se laisse guider par les principes qui sous-tendent les articles 312, 318 et 325 de la Loi, telle qu'elle existait immédiatement avant le 1^{er} janvier 1998.

6. (1) Le présent article s'applique lorsque les conditions suivantes sont réunies :

- a) le 31 décembre 1997, une entente conclue entre deux anciens conseils est en vigueur;
- b) le 1^{er} janvier 1998, les anciens conseils fusionnent avec des conseils scolaires de district.

(2) Les conseils scolaires de district visés à l'alinéa (1) b) ne peuvent pas, jusqu'au 1^{er} janvier 1999, modifier ou révoquer l'entente visée à l'alinéa (1) a) sans l'approbation préalable écrite de la Commission.

(3) La Commission ne doit pas donner son approbation sans donner à chaque conseil scolaire de district qui est touché par l'entente l'occasion de lui présenter des observations.

PARTIE IV ORDONNANCES PRISES SUR DEMANDE CONJOINTE

DEMANDE CONJOINTE D'ORDONNANCE

7. (1) Le conseil secondé qui est rattaché à un ancien conseil et le conseil désigné qui est rattaché à l'ancien conseil peuvent demander conjointement, par écrit, que la Commission prenne une ordonnance en ce qui concerne un élément d'actif, un élément de passif ou un employé rattaché à l'ancien conseil.

(2) Une demande conjointe peut être présentée en vertu du paragraphe (1) avant que la Commission prenne une ordonnance aux termes du présent règlement déterminant l'affectation de l'élément d'actif, de l'élément de passif ou de l'employé.

(3) La demande conjointe peut porter sur n'importe quel groupe d'éléments d'actif, d'éléments de passif et d'employés rattachés à un ou à plusieurs anciens conseils auxquels le conseil désigné et le conseil secondé sont tous deux rattachés.

(4) La demande conjointe précise les éléments d'actif, les éléments de passif et les employés dont elle fait l'objet et indique pour chacun d'eux s'il devrait être transféré ou muté au conseil secondé ou rester avec le conseil désigné.

(5) The joint request may include representations respecting the proposed disposition, including but not limited to representations respecting,

- (a) the timing of any transfer; and
- (b) the terms and conditions to which the transfer order should be subject.

AUTHORITY OF COMMISSION TO MAKE ORDER
ON JOINT REQUEST

8. (1) The Commission may make an order under this Part determining the disposition of assets, liabilities and employees that are the subject of a joint request.

(2) Subject to subsections (4) and (5) and section 9, the order may be in accordance with the joint request or may vary from it, as the Commission considers appropriate having regard to,

- (a) the needs of the designated board;
- (b) the needs of the supported board; and
- (c) where applicable, the interests described in subsection 33 (4).

(3) In addition to the matters mentioned in clauses (2) (a) to (c), in the case of an order respecting an employee, the Commission may take into account the preferences of the employee where the Commission considers it appropriate to do so.

(4) Subject to subsections (5) and (6) and section 9, the order,

- (a) shall specify the time at which the disposition of each asset, liability or employee is to take effect; and
- (b) may be made subject to the terms and conditions that the Commission considers appropriate having regard to the matters referred to in clauses (2) (a) to (c).

(5) The Commission shall not make an order respecting any asset, liability or employee under this Part unless,

- (a) the Commission is satisfied that the order will not unduly impair the ability of the designated board to exercise its powers, carry out its duties and conduct its day-to-day operations;
- (b) the Commission is satisfied that the supported board will be able to discharge its administrative and operational responsibilities for the assets, liabilities and employees that will be transferred to it under the order; and

(c) the designated board and the supported board state in writing that they agree with the order.

(6) In addition, the Commission shall not make an order under this Part determining whether an employee is to be transferred to a supported board or is to remain with a designated board unless,

- (a) the employee agrees to the determination in writing;
- (b) the employee has been notified in accordance with directives issued by the Commission of the proposal with respect to him or her in the joint request, 15 days have elapsed from the notification and no dispute resolution process is ongoing under Part V with respect to the employee; or

(5) La demande conjointe peut comprendre des observations au sujet de l'affectation proposée, notamment :

- a) la date du transfert ou de la mutation;
- b) les conditions auxquelles l'ordonnance de transfert ou de mutation devrait être assujettie.

POUVOIR DE LA COMMISSION DE PRENDRE UNE ORDONNANCE
SUR DEMANDE CONJOINTE

8. (1) La Commission peut prendre une ordonnance en vertu de la présente partie déterminant l'affectation des éléments d'actif, des éléments de passif et des employés dont fait l'objet une demande conjointe.

(2) Sous réserve des paragraphes (4) et (5) et de l'article 9, l'ordonnance peut être conforme à la demande conjointe ou s'en écarter, selon ce que la Commission juge approprié compte tenu de ce qui suit :

- a) les besoins du conseil désigné;
- b) les besoins du conseil secondé;
- c) les intérêts visés au paragraphe 33 (4), le cas échéant.

(3) Outre les questions mentionnées aux alinéas (2) a) à c), dans le cas d'une ordonnance à l'égard d'un employé, la Commission peut tenir compte des préférences de l'employé si elle le juge approprié.

(4) Sous réserve des paragraphes (5) et (6) et de l'article 9, l'ordonnance :

- a) précise la date à laquelle l'affectation de chaque élément d'actif, élément de passif ou employé doit prendre effet;
- b) peut être assujettie aux conditions que la Commission juge appropriées compte tenu des questions visées aux alinéas (2) a) à c).

(5) La Commission ne doit pas prendre d'ordonnance en vertu de la présente partie relativement à un élément d'actif, à un élément de passif ou à un employé à moins que les conditions suivantes ne soient réunies :

- a) elle est convaincue que l'ordonnance ne nuira pas indûment à la capacité du conseil désigné d'exercer ses pouvoirs et fonctions et de mener ses activités courantes;
- b) elle est convaincue que le conseil secondé pourra s'acquitter de ses responsabilités administratives et opérationnelles à l'égard des éléments d'actif, des éléments de passif et des employés qui seront transférés ou mutés au conseil secondé aux termes de l'ordonnance;
- c) le conseil désigné et le conseil secondé déclarent par écrit qu'ils sont d'accord avec l'ordonnance.

(6) En outre, la Commission ne doit pas prendre d'ordonnance en vertu de la présente partie déterminant si un employé doit être muté à un conseil secondé ou rester avec un conseil désigné sauf si, selon le cas :

- a) l'employé accepte par écrit la décision;
- b) l'employé a été avisé, conformément aux directives de la Commission, de la proposition qui le concerne dans la demande conjointe, 15 jours se sont écoulés depuis le moment où il a été avisé et aucune procédure de règlement des différends n'est en cours aux termes de la partie V à l'égard de l'employé;

- (c) the employee has been the subject of a dispute resolution process under Part V and that process is no longer ongoing, whether because of the issuance of a notice under section 13 or because the process as established by the Commission's directives has been completed.

TIMING OF ORDERS ON JOINT REQUEST

9. (1) Subject to subsection (2), an order under this Part determining the disposition of an asset, liability or employee shall not be made after August 31, 1998 and shall not provide for the transfer of any asset, liability or employee after August 31, 1998.

(2) The Commission may make an order under this Part determining the disposition of an asset or liability at any time before January 1, 1999 if, on August 31, 1998, a dispute resolution process under Part V as to the disposition is ongoing.

(3) An order made under subsection (2) shall not provide for the transfer of any asset or liability after December 31, 1998.

PART V DISPUTE RESOLUTION PROCESS

10. (1) The Commission shall establish a process for resolving disputes with respect to the holding in trust, transfer and vesting of assets, the transfer of liabilities and the transfer of employees of old boards to and among district school boards.

(2) A hearing under the dispute resolution process, whether written or oral, shall be held by the Commission or by a panel, established under section 27, of one or more members of the Commission.

(3) The Commission may issue directives for the purpose of implementing the dispute resolution process.

11. (1) The Commission shall take such steps and issue such directives as it considers necessary to ensure that, by August 31, 1998, all dispute resolution processes respecting employees,

- (a) are completed in accordance with the Commission's directives establishing the dispute resolution process; or
- (b) are discontinued because of the issuance of a notice under section 13.

(2) The Commission shall take such steps and issue such directives as it considers necessary to ensure that, by December 31, 1998, all dispute resolution processes respecting assets and liabilities,

- (a) are completed in accordance with the Commission's directives establishing the dispute resolution process; or
- (b) are discontinued because of the issuance of a notice under section 13.

12. (1) Subject to section 13, the dispute resolution process applies to every asset and liability associated with an old board the disposition of which has not been determined by an order under Part IV before April 1, 1998.

(2) Subject to section 13, the dispute resolution process applies to every employee associated with an old board whose disposition has not been determined by an order under Part IV before March 1, 1998.

- c) l'employé a fait l'objet d'une procédure de règlement des différends aux termes de la partie V et cette procédure a pris fin, soit parce qu'un avis a été donné aux termes de l'article 13, soit parce que la procédure, telle qu'elle est établie dans les directives de la Commission, a été menée à terme.

DATE LIMITE DE PRISE DES ORDONNANCES SUR DEMANDE CONJOINTE

9. (1) Sous réserve du paragraphe (2), une ordonnance déterminant l'affectation d'un élément d'actif, d'un élément de passif ou d'un employé ne doit pas être prise en vertu de la présente partie après le 31 août 1998 et ne doit pas prévoir le transfert d'un élément d'actif ou de passif ni la mutation d'un employé après cette date.

(2) La Commission peut prendre une ordonnance en vertu de la présente partie déterminant l'affectation d'un élément d'actif ou de passif avant le 1^{er} janvier 1999 si, le 31 août 1998, une procédure de règlement des différends est en cours à ce sujet aux termes de la partie V.

(3) L'ordonnance prévue au paragraphe (2) ne doit pas prévoir le transfert d'un élément d'actif ou de passif après le 31 décembre 1998.

PARTIE V MÉTHODE DE RÈGLEMENT DES DIFFÉRENDS

10. (1) La Commission établit une méthode de règlement des différends en ce qui concerne la détention en fiducie, le transfert et la dévolution des éléments de l'actif des anciens conseils, le transfert des éléments de leur passif et la mutation de leurs employés aux conseils scolaires de district.

(2) La Commission ou un comité d'un ou de plusieurs de ses membres constitué en vertu de l'article 27 tient les audiences, écrites ou orales, qui ont lieu conformément à la méthode de règlement des différends.

(3) La Commission peut donner des directives visant à mettre en œuvre la méthode de règlement des différends.

11. (1) La Commission prend les mesures et donne les directives qu'elle juge nécessaires pour veiller à ce qu'au plus tard le 31 août 1998, toutes les procédures de règlement des différends portant sur des employés :

- a) ou bien soient menées à terme conformément à ses directives sur l'établissement de la méthode de règlement des différends;
- b) ou bien soient abandonnées parce qu'un avis a été donné aux termes de l'article 13.

(2) La Commission prend les mesures et donne les directives qu'elle juge nécessaires pour veiller à ce qu'au plus tard le 31 décembre 1998, toutes les procédures de règlement des différends portant sur des éléments d'actif et des éléments de passif :

- a) ou bien soient menées à terme conformément à ses directives sur l'établissement de la méthode de règlement des différends;
- b) ou bien soient abandonnées parce qu'un avis a été donné aux termes de l'article 13.

12. (1) Sous réserve de l'article 13, la méthode de règlement des différends s'applique à chaque élément d'actif et élément de passif qui est rattaché à un ancien conseil et au sujet duquel une ordonnance déterminant son affectation n'a pas été prise en vertu de la partie IV avant le 1^{er} avril 1998.

(2) Sous réserve de l'article 13, la méthode de règlement des différends s'applique à chaque employé qui est rattaché à un ancien conseil et au sujet duquel une ordonnance déterminant son affectation n'a pas été prise en vertu de la partie IV avant le 1^{er} mars 1998.

(3) Subject to section 13, the dispute resolution process applies to every asset, liability or employee in respect of which notice is given under subsection (4).

(4) A designated board associated with an old board or a supported board associated with an old board may, in accordance with the directives issued under section 10, give written notice invoking the dispute resolution process in respect of any asset, liability or employee associated with the old board.

(5) A notice under subsection (4) may be given in respect of an asset or liability at any time before April 1, 1998 and in respect of an employee at any time before March 1, 1998.

(6) Subject to section 13, the dispute resolution process applies to every employee in respect of whom notice is given under subsection (7).

(7) An employee associated with an old board may, in accordance with the directives issued under section 10, give written notice invoking the dispute resolution process in respect of himself or herself.

(8) A notice under subsection (7) may be given at any time before March 1, 1998.

13. (1) The Commission shall monitor all dispute resolution processes in order to identify, in each case as soon as is reasonably possible,

- (a) each asset or liability with respect to which there is agreement between the supported board and the designated board; and
- (b) each employee with respect to whom there is agreement among the employee, the supported board and the designated board.

(2) The Commission shall issue such directives as it considers appropriate to assist it in carrying out its obligations under subsection (1).

(3) When the Commission identifies an asset, liability or employee under subsection (1), the Commission shall, as soon as reasonably possible, issue a written notice to that effect.

(4) The notice under subsection (3) shall be given to the supported board and the designated board.

(5) Where the notice under subsection (3) relates to an employee, the notice shall also be given to the employee.

(6) The dispute resolution process ceases to apply to an asset, liability or employee when the Commission issues,

- (a) a notice under subsection (3); or
- (b) an order under this Regulation determining the disposition of the asset, liability or employee.

PART VI ORDERS WITHOUT JOINT REQUEST

14. (1) At any time before August 31, 1998, the Commission may make an order determining the disposition of any asset, liability or employee associated with an old board the disposition of which has not been determined by an order made under this Regulation if,

- (a) the asset, liability or employee has been the subject of a dispute resolution process under Part V; and
- (b) that asset, liability or employee is no longer the subject of the dispute resolution process, whether because of the issuance of a

(3) Sous réserve de l'article 13, la méthode de règlement des différends s'applique à chaque élément d'actif, élément de passif ou employé à l'égard duquel un avis est donné en vertu du paragraphe (4).

(4) Un conseil désigné ou un conseil secondé qui est rattaché à un ancien conseil peut, conformément aux directives données en vertu de l'article 10, donner un avis écrit dans lequel il fait appel à la méthode de règlement des différends à l'égard d'un élément d'actif, d'un élément de passif ou d'un employé rattaché à l'ancien conseil.

(5) L'avis prévu au paragraphe (4) peut être donné avant le 1^{er} avril 1998 à l'égard d'un élément d'actif ou de passif et avant le 1^{er} mars 1998 à l'égard d'un employé.

(6) Sous réserve de l'article 13, la méthode de règlement des différends s'applique à chaque employé à l'égard duquel un avis est donné en vertu du paragraphe (7).

(7) Un employé rattaché à un ancien conseil peut, conformément aux directives données en vertu de l'article 10, donner un avis écrit dans lequel il fait appel à la méthode de règlement des différends à son égard.

(8) L'avis prévu au paragraphe (7) peut être donné avant le 1^{er} mars 1998.

13. (1) La Commission surveille toutes les procédures de règlement des différends afin d'identifier, dès que raisonnablement possible :

- a) chaque élément d'actif ou de passif sur lequel s'entendent le conseil secondé et le conseil désigné;
- b) chaque employé sur lequel s'entendent le conseil secondé, le conseil désigné et l'employé.

(2) La Commission donne les directives qu'elle juge appropriées pour l'aider à s'acquitter des obligations que lui impose le paragraphe (1).

(3) Lorsqu'elle identifie un élément d'actif, un élément de passif ou un employé aux termes du paragraphe (1), la Commission donne, dès que raisonnablement possible, un avis écrit à cet effet.

(4) L'avis prévu au paragraphe (3) est donné au conseil secondé et au conseil désigné.

(5) Si l'avis prévu au paragraphe (3) a trait à un employé, il est aussi donné à celui-ci.

(6) Une procédure de règlement des différends cesse de s'appliquer à un élément d'actif, à un élément de passif ou à un employé lorsque la Commission :

- a) soit donne l'avis prévu au paragraphe (3);
- b) soit prend une ordonnance aux termes du présent règlement déterminant l'affectation de l'élément d'actif, de l'élément de passif ou de l'employé.

PARTIE VI ORDONNANCES SANS DEMANDE CONJOINTE

14. (1) La Commission peut, avant le 31 août 1998, prendre une ordonnance déterminant l'affectation d'un élément d'actif, d'un élément de passif ou d'un employé rattaché à un ancien conseil dans les cas où une ordonnance n'a pas été prise à ce sujet aux termes du présent règlement si :

- a) d'une part, l'élément d'actif, l'élément de passif ou l'employé a fait l'objet d'une procédure de règlement des différends aux termes de la partie V;
- b) d'autre part, l'élément d'actif, l'élément de passif ou l'employé ne fait plus l'objet de la procédure de règlement des différends, soit parce qu'un avis a été donné aux termes de l'article 13, soit

notice under section 13 or because the process as established by the Commission's directives has been completed.

(2) An order made under subsection (1) shall not provide for the transfer of any asset, liability or employee after August 31, 1998.

15. (1) On August 31, 1998, the Commission shall make an order determining the disposition of each employee associated with an old board whose disposition has not been determined by an order made under this Regulation.

(2) An order made under subsection (1) shall not provide for the transfer of any employee after August 31, 1998.

(3) Subsection (4) applies if the dispute resolution process under Part V in respect of an asset or liability is no longer ongoing, whether because of the issuance of a notice under section 13 or because the process as established by the Commission's directives has been completed.

(4) On August 31, 1998, the Commission shall make an order determining the disposition of each asset or liability associated with an old board the disposition of which has not been determined by an order made under this Regulation.

(5) An order made under subsection (4) shall not provide for the transfer of any asset or liability after August 31, 1998.

16. (1) At any time after August 31, 1998 and before December 31, 1998, the Commission may make an order determining the disposition of any asset or liability associated with an old board the disposition of which has not been determined by an order made under this Regulation, if the dispute resolution process under Part V in respect of the asset or liability is no longer ongoing, whether because of the issuance of a notice under section 13 or because the process as established by the Commission's directives has been completed.

(2) An order made under subsection (1) shall not provide for the transfer of any asset or liability after December 31, 1998.

17. (1) On December 31, 1998, the Commission shall make an order determining the disposition of each asset and liability associated with each old board the disposition of which has not been determined by an order made under this Regulation.

(2) An order made under subsection (1) shall not provide for the transfer of any asset or liability after December 31, 1998.

18. (1) In making an order under this Part, the Commission shall have regard to,

- (a) the needs of the designated board;
- (b) the needs of the supported board; and
- (c) where applicable, the interests described in subsection 33 (4).

(2) In making an order under this Part respecting an employee, the Commission may also take into account the preferences of the employee where the Commission considers it appropriate to do so.

(3) An order made under this Part shall specify, subject to subsections 14 (2), 15 (2), 15 (5), 16 (2) and 17 (2), the time at which the disposition of each asset, liability or employee is to take effect.

(4) An order made under this Part may be made subject to the terms and conditions that the Commission considers appropriate having regard to the matters referred to in clauses (1) (a) to (c).

parce que la procédure, telle qu'elle est établie dans les directives de la Commission, a été menée à terme.

(2) L'ordonnance prévue au paragraphe (1) ne doit pas prévoir le transfert d'un élément d'actif ou de passif ni la mutation d'un employé après le 31 août 1998.

15. (1) Le 31 août 1998, la Commission prend une ordonnance déterminant l'affectation de chaque employé rattaché à un ancien conseil dans les cas où une ordonnance n'a pas été prise à ce sujet aux termes du présent règlement.

(2) L'ordonnance prévue au paragraphe (1) ne doit pas prévoir la mutation d'un employé après le 31 août 1998.

(3) Le paragraphe (4) s'applique si la procédure de règlement des différends engagée aux termes de la partie V à l'égard d'un élément d'actif ou de passif a pris fin, soit parce qu'un avis a été donné aux termes de l'article 13, soit parce que la procédure, telle qu'elle est établie dans les directives de la Commission, a été menée à terme.

(4) Le 31 août 1998, la Commission prend une ordonnance déterminant l'affectation de chaque élément d'actif ou de passif rattaché à un ancien conseil dans les cas où une ordonnance n'a pas été prise à ce sujet aux termes du présent règlement.

(5) L'ordonnance prévue au paragraphe (4) ne doit pas prévoir le transfert d'un élément d'actif ou de passif après le 31 août 1998.

16. (1) La Commission peut, après le 31 août 1998 mais avant le 31 décembre 1998, prendre une ordonnance déterminant l'affectation de tout élément d'actif ou de passif rattaché à un ancien conseil dans les cas où une ordonnance n'a pas été prise à ce sujet aux termes du présent règlement si la procédure de règlement des différends engagée aux termes de la partie V à l'égard de l'élément d'actif ou de passif a pris fin, soit parce qu'un avis a été donné aux termes de l'article 13, soit parce que la procédure, telle qu'elle est établie dans les directives de la Commission, a été menée à terme.

(2) L'ordonnance prévue au paragraphe (1) ne doit pas prévoir le transfert d'un élément d'actif ou de passif après le 31 décembre 1998.

17. (1) Le 31 décembre 1998, la Commission prend une ordonnance déterminant l'affectation de chaque élément d'actif et élément de passif rattaché à chaque ancien conseil dans les cas où une ordonnance n'a pas été prise à ce sujet aux termes du présent règlement.

(2) L'ordonnance prévue au paragraphe (1) ne doit pas prévoir le transfert d'un élément d'actif ou de passif après le 31 décembre 1998.

18. (1) Lorsqu'elle prend une ordonnance aux termes de la présente partie, la Commission tient compte de ce qui suit :

- a) les besoins du conseil désigné;
- b) les besoins du conseil secondé;
- c) les intérêts visés au paragraphe 33 (4), le cas échéant.

(2) Lorsqu'elle prend une ordonnance aux termes de la présente partie à l'égard d'un employé, la Commission peut aussi tenir compte des préférences de l'employé si elle le juge approprié.

(3) L'ordonnance prise aux termes de la présente partie précise, sous réserve des paragraphes 14 (2), 15 (2), 15 (5), 16 (2) et 17 (2), la date à laquelle l'affectation de chaque élément d'actif, élément de passif ou employé doit prendre effet.

(4) L'ordonnance prise aux termes de la présente partie peut être assujettie aux conditions que la Commission juge appropriées compte tenu des questions visées aux alinéas (1) a) à c).

**PART VII
PAYMENT BY SUPPORTED BOARD FOR
SERVICES OF DESIGNATED BOARD**

DEFINITIONS

19. In this Part,

“designated board’s actual costs” means the actual costs incurred by a designated board associated with an old board in managing the assets, liabilities and employees associated with the old board; (“frais réels”)

“exclusive jurisdiction costs” means costs incurred by a designated board for which payment is required under section 20; (“frais de compétence exclusive”)

“1997 expenditure allocation form” means the form that,

(a) is referred to in the B4 memorandum to directors of education dated November 18, 1997; and

(b) was provided by the Ministry for the purpose of determining the French-English split of 1997 expenditures by old boards; (“formule de répartition des dépenses pour 1997”)

“supported board’s common jurisdiction expenditure costs” means the common jurisdiction expenditure costs of a supported board associated with an old board, as calculated under the legislative grant regulation applicable to the period beginning January 1, 1998 and ending August 31, 1998. (“frais qui incombent au conseil secondé au titre des dépenses de compétence commune”)

**EXCLUSIVE JURISDICTION EXPENDITURES FOR
JANUARY 1, 1998 TO AUGUST 31, 1998**

20. (1) This section applies where the old board that was merged under section 2 with a designated board had a minority language section within the meaning of the Act, as it read immediately before January 1, 1998.

(2) The supported board associated with an old board shall pay to the designated board associated with the old board the total of the designated board’s actual costs incurred during the period beginning January 1, 1998 and ending August 31, 1998 for matters listed as exclusive jurisdiction expenditures on the 1997 expenditure allocation form for the old board.

**COMMON JURISDICTION EXPENDITURES FOR JANUARY 1, 1998
TO AUGUST 31, 1998 WHERE NO TRANSFER
OCCURS BEFORE AUGUST 31, 1998**

21. (1) This section applies whether or not the old board that was merged under section 2 with a designated board had a minority language section within the meaning of the Act, as it read immediately before January 1, 1998.

(2) This section applies in respect of the period beginning January 1, 1998 and ending August 31, 1998 where, throughout that period, no asset, liability or employee associated with an old board is transferred from the designated board associated with the old board to the supported board associated with the old board.

(3) The supported board associated with an old board shall pay to the designated board associated with the old board the supported board’s common jurisdiction expenditure costs.

**PARTIE VII
REMBOURSEMENT, PAR LE CONSEIL SECONDÉ,
DES SERVICES FOURNIS PAR LE CONSEIL DÉSIGNÉ**

DÉFINITIONS

19. Les définitions qui suivent s’appliquent à la présente partie.

«formule de répartition des dépenses pour 1997» La formule :

a) qui est mentionnée dans la note de service B4 du 18 novembre 1997 à l’intention des directrices et directeurs de l’éducation;

b) qui a été fournie par le ministère pour déterminer la répartition des dépenses en 1997 entre la section française et la section anglaise des anciens conseils. («1997 expenditure allocation form»)

«frais de compétence exclusive» Les frais qu’engage un conseil désigné et dont le remboursement est exigé par l’article 20. («exclusive jurisdiction costs»)

«frais qui incombent au conseil secondé au titre des dépenses de compétence commune» Les frais qui incombent à un conseil secondé qui est rattaché à un ancien conseil au titre des dépenses de compétence commune, calculés aux termes du règlement sur les subventions générales applicable à la période comprise entre le 1^{er} janvier 1998 et le 31 août 1998. («supported board’s common jurisdiction expenditure costs»)

«frais réels» Les frais réels qu’engage un conseil désigné qui est rattaché à un ancien conseil pour gérer les éléments d’actif, les éléments de passif et les employés rattachés à l’ancien conseil. («designated board’s actual costs»)

**DÉPENSES DE COMPÉTENCE EXCLUSIVE POUR
LA PÉRIODE COMPRISE
ENTRE LE 1^{er} JANVIER 1998 ET LE 31 AOÛT 1998**

20. (1) Le présent article s’applique lorsque l’ancien conseil qui a fusionné avec un conseil désigné aux termes de l’article 2 comprenait une section de la minorité linguistique au sens de la Loi, telle qu’elle existait immédiatement avant le 1^{er} janvier 1998.

(2) Le conseil secondé qui est rattaché à un ancien conseil rembourse au conseil désigné qui est rattaché à l’ancien conseil la totalité des frais réels que le conseil désigné a engagés au cours de la période comprise entre le 1^{er} janvier 1998 et le 31 août 1998 au titre des éléments énumérés comme dépenses de compétence exclusive sur la formule de répartition des dépenses pour 1997 de l’ancien conseil.

**DÉPENSES DE COMPÉTENCE COMMUNE POUR LA PÉRIODE COMPRISE
ENTRE LE 1^{er} JANVIER 1998 ET LE 31 AOÛT 1998
EN L’ABSENCE DE TRANSFERT OU DE MUTATION AVANT LE 31 AOÛT 1998**

21. (1) Le présent article s’applique peu importe si l’ancien conseil qui a fusionné avec un conseil désigné aux termes de l’article 2 comprenait ou non une section de la minorité linguistique au sens de la Loi, telle qu’elle existait immédiatement avant le 1^{er} janvier 1998.

(2) Le présent article s’applique à l’égard de la période comprise entre le 1^{er} janvier 1998 et le 31 août 1998 lorsque, au cours de cette période, aucun élément d’actif, élément de passif ni employé rattaché à un ancien conseil n’est transféré ou muté du conseil désigné qui est rattaché à l’ancien conseil au conseil secondé qui est rattaché à celui-ci.

(3) Le conseil secondé qui est rattaché à un ancien conseil rembourse au conseil désigné qui est rattaché à l’ancien conseil les frais qui incombent au conseil secondé au titre des dépenses de compétence commune.

OTHER EXPENDITURES

22. (1) This section applies whether or not the old board that was merged under section 2 with a designated board had a minority language section within the meaning of the Act, as it read immediately before January 1, 1998.

(2) This section applies to costs incurred by a designated board associated with an old board in respect of which payment is not provided by section 20 or 21.

(3) Examples of costs to which this section applies include:

1. Costs, other than exclusive jurisdiction costs, in respect of the period beginning January 1, 1998 and ending August 31, 1998 where, during that period, one or more assets, liabilities or employees associated with the old board are transferred from the designated board associated with the old board to the supported board associated with the old board.
2. Costs in respect of the period beginning January 1, 1998 and ending August 31, 1998 where the old board had no minority language section and was, immediately before January 1, 1998, purchasing English-language or French-language educational programs or services, as the case may be, for its minority language pupils.
3. Costs in respect of the period beginning September 1, 1998 and ending December 31, 1998.

(4) The supported board associated with an old board shall pay to the designated board associated with the old board amounts determined in accordance with directives issued by the Commission under subsection (5).

(5) The Commission shall issue directives respecting the amounts payable under subsection (4), in order to provide for payments by the supported board to the designated board in respect of costs incurred by the designated board in meeting requirements under Part III of this Regulation.

23. (1) This section applies to district school boards affected by the operation of section 6 or 33.

(2) A district school board shall pay to another district school board amounts determined in accordance with directives issued by the Commission under subsection (3).

(3) The Commission shall issue directives respecting amounts payable under subsection (2), in order to provide for payments by one district school board to another district school board in respect of costs incurred by the second district school board in meeting requirements under clause 58.1 (2) (q) of the Act.

(4) A directive under subsection (3) may provide for an adjustment of amounts that would otherwise be payable under section 20, 21 or 22.

DISPUTE RESOLUTION

24. (1) The Commission shall establish a process for resolving disputes with respect to payments to be made under this Part.

(2) The Commission may issue directives for the purpose of implementing the dispute resolution process.

AUTRES DÉPENSES

22. (1) Le présent article s'applique peu importe si l'ancien conseil qui a fusionné avec un conseil désigné aux termes de l'article 2 comprenait ou non une section de la minorité linguistique au sens de la Loi, telle qu'elle existait immédiatement avant le 1^{er} janvier 1998.

(2) Le présent article s'applique aux frais qu'un conseil désigné qui est rattaché à un ancien conseil a engagés et dont l'article 20 ou 21 ne prévoit pas le remboursement.

(3) Suivent des exemples de frais auxquels s'applique le présent article :

1. Les frais, à l'exception des frais de compétence exclusive, relatifs à la période comprise entre le 1^{er} janvier 1998 et le 31 août 1998 lorsque, au cours de cette période, un ou plusieurs éléments d'actif, éléments de passif ou employés rattachés à l'ancien conseil sont transférés ou mutés du conseil désigné qui est rattaché à l'ancien conseil au conseil secondé qui est rattaché à celui-ci.
2. Les frais relatifs à la période comprise entre le 1^{er} janvier 1998 et le 31 août 1998 lorsque l'ancien conseil ne comprenait pas de section de la minorité linguistique et qu'il achetait, immédiatement avant le 1^{er} janvier 1998, des programmes ou services éducatifs de langue française ou anglaise, selon le cas, pour les élèves de sa minorité linguistique.
3. Les frais relatifs à la période comprise entre le 1^{er} septembre 1998 et le 31 décembre 1998.

(4) Le conseil secondé qui est rattaché à un ancien conseil verse au conseil désigné qui est rattaché à l'ancien conseil les sommes calculées conformément aux directives que la Commission donne aux termes du paragraphe (5).

(5) La Commission donne des directives relativement aux sommes exigibles aux termes du paragraphe (4) afin de prévoir les remboursements que le conseil secondé doit faire au conseil désigné au titre des frais que celui-ci a engagés pour respecter les exigences prévues par la partie III du présent règlement.

23. (1) Le présent article s'applique aux conseils scolaires de district qui tombent sous le coup de l'article 6 ou 33.

(2) Un conseil scolaire de district verse à un autre conseil scolaire de district les sommes calculées conformément aux directives que la Commission donne aux termes du paragraphe (3).

(3) La Commission donne des directives relativement aux sommes exigibles aux termes du paragraphe (2) afin de prévoir les remboursements qu'un conseil scolaire de district doit faire à un autre conseil scolaire de district au titre des frais que celui-ci a engagés pour respecter les exigences prévues à l'alinéa 58.1 (2) q) de la Loi.

(4) Les directives prévues au paragraphe (3) peuvent prévoir le rajustement des sommes qui seraient exigibles par ailleurs aux termes de l'article 20, 21 ou 22.

RÈGLEMENT DES DIFFÉRENDS

24. (1) La Commission établit une méthode de règlement des différends portant sur les remboursements qui doivent être faits aux termes de la présente partie.

(2) La Commission peut donner des directives visant à mettre en œuvre la méthode de règlement des différends.

GENERAL

25. (1) On application made from time to time by a supported board associated with an old board or a designated board associated with an old board, the Commission may order payments to be made or accounts to be adjusted for the purpose of ensuring that the requirements of this Part are met.

(2) An order under this section may be made subject to the terms and conditions that the Commission considers appropriate.

(3) An order under this section shall be in respect of costs incurred during the period beginning January 1, 1998 and ending December 31, 1998.

(4) An order under this section may be made at any time before September 1, 1999.

26. (1) The Commission may issue directives respecting the making of interim or periodic payments under this Part.

(2) Without limiting the generality of subsection (1), the directives may require interim or periodic payments to be made in respect of matters listed as common jurisdiction expenditures on the 1997 expenditure allocation form, before the legislative grant regulation applicable to the period beginning January 1, 1998 and ending August 31, 1998 is made.

(3) The directives may include provisions respecting the payment of interest and the allowance of discounts in circumstances specified in the directives.

(4) Where the directives include provisions respecting interest payments and discount allowances, the rate of interest payable or the rate of discount allowable, as the case may be, is the lowest prime rate reported to the Bank of Canada by any of the banks listed in Schedule 1 to the *Bank Act* (Canada) at the relevant date.

PART VIII GENERAL POWERS AND DUTIES OF THE COMMISSION

27. The Commission may establish panels of one or more members to exercise specified powers and carry out specified duties of the Commission in the place of the Commission.

28. The Commission may issue directives respecting the procedures to be followed and deadlines to be met in connection with anything done under this Regulation.

29. Any directive issued under this Regulation may be general or particular.

30. (1) The Commission may vary any of its orders under this Regulation by varying the date on which the order, or any part of the order, is to take effect.

(2) Subsection (1) is subject to any provision of this Regulation that sets a date by which an order must be made or by which an order must take effect.

31. Where the Commission is required by this Regulation or the directives issued under it to give a notice to an employee and the employee is represented by a bargaining agent for collective bargaining purposes, the Commission shall also give the notice to the bargaining agent.

32. (1) In addition to the powers and duties of the Commission under Parts II to VII of this Regulation, the Commission has the following powers and shall exercise the following duties:

DISPOSITIONS GÉNÉRALES

25. (1) La Commission peut, sur présentation d'une demande à cet effet par un conseil secondé ou un conseil désigné qui est rattaché à un ancien conseil, ordonner le remboursement de sommes ou le rajustement de comptes afin d'assurer le respect des exigences de la présente partie.

(2) L'ordonnance prévue au présent article peut être assujettie aux conditions que la Commission juge appropriées.

(3) L'ordonnance prévue au présent article porte sur les frais engagés au cours de la période comprise entre le 1^{er} janvier 1998 et le 31 décembre 1998.

(4) L'ordonnance prévue au présent article peut être prise avant le 1^{er} septembre 1999.

26. (1) La Commission peut donner des directives exigeant que des paiements provisoires ou périodiques soient faits aux termes de la présente partie.

(2) Sans préjudice de la portée générale du paragraphe (1), les directives peuvent exiger que des paiements provisoires ou périodiques soient faits au titre des éléments énumérés comme dépenses de compétence commune sur la formule de répartition des dépenses pour 1997, avant la prise du règlement sur les subventions générales applicable à la période comprise entre le 1^{er} janvier 1998 et le 31 août 1998.

(3) Les directives peuvent comprendre des dispositions relatives au versement d'intérêts et à l'octroi de remises dans les circonstances qu'elles précisent.

(4) Lorsque les directives comprennent des dispositions relatives au versement d'intérêts et à l'octroi de remises, le taux d'intérêt ou de remise, selon le cas, correspond au taux préférentiel le plus bas signalé à la Banque du Canada à la date pertinente par une des banques mentionnées à l'annexe 1 de la *Loi sur les banques* (Canada).

PARTIE VIII POUVOIRS ET FONCTIONS GÉNÉRAUX DE LA COMMISSION

27. La Commission peut constituer des comités d'un ou de plusieurs membres chargés d'exercer des pouvoirs et fonctions précis de la Commission à sa place.

28. La Commission peut donner des directives relativement aux modalités à suivre et aux délais à respecter en ce qui concerne tout acte accompli aux termes du présent règlement.

29. Les directives données aux termes du présent règlement peuvent avoir une portée générale ou particulière.

30. (1) La Commission peut modifier toute ordonnance qu'elle prend aux termes du présent règlement en changeant la date à laquelle l'ordonnance, ou une de ses parties, doit prendre effet.

(2) Le paragraphe (1) est assujéti à toute disposition du présent règlement qui fixe la date la plus tardive à laquelle une ordonnance doit être prise ou prendre effet.

31. Si le présent règlement ou les directives données aux termes de celui-ci exigent qu'elle donne un avis à un employé et que ce dernier est représenté par un agent négociateur aux fins de la négociation collective, la Commission donne aussi l'avis à l'agent négociateur.

32. (1) Outre les pouvoirs et fonctions que lui attribuent les parties II à VII du présent règlement, la Commission exerce les pouvoirs et les fonctions suivants :

1. The power and duty to issue directives to district school boards and other classes of persons or bodies specified by the Commission respecting criteria to be applied and processes to be followed in developing recommendations to the Commission with respect to any matter referred to in clauses 58.1 (2) (p) and 58.2 (1) (b) and (c) of the Act.
2. The power and duty to issue directives respecting the participation of classes of persons or bodies specified by the Commission in the development of recommendations referred to in paragraph 1.
3. The power and duty to make determinations respecting the holding in trust, transfer and vesting of assets, the transfer of liabilities and the transfer of employees of old boards to and among district school boards for the purpose of making orders under this Regulation.
4. The power and duty to determine by or against which district school boards legal and other proceedings commenced by or against old boards shall be continued.
5. The power and duty to determine by or against which district school boards orders or determinations of a court or other authority affecting old boards shall be enforced.
6. The power and duty to issue orders that the Commission considers necessary or advisable to give effect to the determinations made under this section and to impose terms and conditions on its orders.

(2) Without limiting the generality of paragraph 4, a determination under paragraph 4 may substitute or add persons as parties to a proceeding continued under paragraph 4.

(3) Without limiting the generality of paragraph 5, a determination under paragraph 5 may substitute or add persons against which or by which an order or determination referred to under paragraph 5 may be enforced.

PART IX TRANSFERS BETWEEN PUBLIC BOARDS AND ROMAN CATHOLIC BOARDS

33. (1) In this section,

“Schedule 2 public old board” means an old board listed in column 2 of Schedule 2; (“ancien conseil public mentionné à l’annexe 2”)

“Schedule 2 Roman Catholic old board” means an old board listed in column 1 of Schedule 2. (“ancien conseil catholique mentionné à l’annexe 2”)

(2) This section applies where the area of jurisdiction of a designated board that is a public district school board includes some or all of the area of jurisdiction of a Schedule 2 Roman Catholic old board.

(3) In making an order under this Regulation that affects a designated board referred to in subsection (2), the Commission shall take into account the interests of,

- (a) the designated board associated with the relevant Schedule 2 Roman Catholic old board; and
- (b) the supported board associated with the relevant Schedule 2 Roman Catholic old board.

(4) For the purposes of subsection (3), a designated board referred to in clause (3) (a) and a supported board referred to in clause (3) (b) has an interest in an asset or liability of the designated board referred to in

1. Donner des directives aux conseils scolaires de district et aux autres catégories de personnes ou d'organismes qu'elle précise à l'égard des critères à appliquer et des méthodes à suivre lors de la formulation des recommandations qui lui sont faites relativement à toute question visée aux alinéas 58.1 (2) p) et 58.2 (1) b) et c) de la Loi.
2. Donner des directives à l'égard de la participation des catégories de personnes ou d'organismes qu'elle précise à la formulation des recommandations visées à la disposition 1.
3. Prendre des décisions à l'égard de la détention en fiducie, du transfert et de la dévolution des éléments de l'actif des anciens conseils, du transfert des éléments de leur passif et de la mutation de leurs employés aux conseils scolaires de district lorsqu'il s'agit de prendre des ordonnances aux termes du présent règlement.
4. Décider par ou contre quels conseils scolaires de district les instances judiciaires et autres introduites par ou contre des anciens conseils doivent être poursuivies.
5. Décider par ou contre quels conseils scolaires de district les ordonnances judiciaires et autres ordonnances, décrets, arrêtés ou décisions d'un tribunal ou d'une autre instance touchant des anciens conseils doivent être exécutés.
6. Prendre les ordonnances qu'elle estime nécessaires ou souhaitables pour donner effet aux décisions prises aux termes du présent article et assortir ses ordonnances de conditions.

(2) Sans préjudice de la portée générale de la disposition 4, les décisions prises aux termes de cette disposition peuvent substituer ou ajouter des personnes comme parties aux instances poursuivies aux termes de cette disposition.

(3) Sans préjudice de la portée générale de la disposition 5, les décisions prises aux termes de cette disposition peuvent substituer ou ajouter des personnes contre ou par lesquelles les ordonnances, décrets, arrêtés ou décisions visés à cette disposition peuvent être exécutés.

PARTIE IX TRANSFERTS ENTRE CONSEILS PUBLICS ET CONSEILS CATHOLIQUES

33. (1) Les définitions qui suivent s'appliquent au présent article.

«ancien conseil catholique mentionné à l'annexe 2» Ancien conseil mentionné dans la colonne 1 de l'annexe 2. («Schedule 2 Roman Catholic old board»)

«ancien conseil public mentionné à l'annexe 2» Ancien conseil mentionné dans la colonne 2 de l'annexe 2. («Schedule 2 public old board»)

(2) Le présent article s'applique lorsque le territoire de compétence d'un conseil désigné qui est un conseil scolaire de district public comprend la totalité ou une partie du territoire de compétence d'un ancien conseil catholique mentionné à l'annexe 2.

(3) Lorsqu'elle prend une ordonnance aux termes du présent règlement qui touche un conseil désigné visé au paragraphe (2), la Commission tient compte des intérêts des conseils suivants :

- a) le conseil désigné qui est rattaché à l'ancien conseil catholique mentionné à l'annexe 2 pertinent;
- b) le conseil secondé qui est rattaché à l'ancien conseil catholique mentionné à l'annexe 2 pertinent.

(4) Pour l'application du paragraphe (3), un conseil désigné visé à l'alinéa (3) a) et un conseil secondé visé à l'alinéa (3) b) ont un intérêt sur un élément d'actif ou de passif du conseil désigné visé au

subsection (2) only if, before January 1, 1998, the asset or liability related, in whole or in part, to the education of pupils,

(a) who attended a school of a Schedule 2 public old board listed in Schedule 2 opposite the relevant Schedule 2 Roman Catholic old board; and

(b) whose parent or guardian was a separate school supporter.

(5) Where the Commission considers it appropriate to do so having regard to the interests described in subsection (4), the Commission may transfer an asset or liability from the designated board referred to in subsection (2) to a designated board referred to in clause (3) (a) or a supported board referred to in clause (3) (b).

PART X

REVOCATION AND COMMENCEMENT

34. Ontario Regulation 357/97 is revoked.

35. This Regulation comes into force on the day section 32 of the *Education Quality Improvement Act, 1997* comes into force.

paragraphe (2) seulement si, avant le 1^{er} janvier 1998, l'élément d'actif ou de passif avait trait, en tout ou en partie, à l'enseignement dispensé aux élèves :

a) d'une part, qui fréquentaient une école relevant d'un ancien conseil public mentionné à l'annexe 2 en regard de l'ancien conseil catholique mentionné à l'annexe 2 pertinent;

b) d'autre part, dont le père, la mère ou le tuteur était contribuable des écoles séparées.

(5) Si la Commission le juge approprié compte tenu des intérêts visés au paragraphe (4), elle peut transférer un élément d'actif ou de passif du conseil désigné visé au paragraphe (2) à un conseil désigné visé à l'alinéa (3) a) ou à un conseil secondé visé à l'alinéa (3) b).

PARTIE X

ABROGATION ET ENTRÉE EN VIGUEUR

34. Le Règlement de l'Ontario 357/97 est abrogé.

35. Le présent règlement entre en vigueur le jour où l'article 32 de la *Loi de 1997 sur l'amélioration de la qualité de l'éducation* entre en vigueur.

Schedule 1/Annexe 1

| | COLUMN 1/COLONNE 1 | COLUMN 2/COLONNE 2 | COLUMN 3/COLONNE 3 |
|----------------|---|---|--|
| ITEM/ POINT | OLD BOARDS/ ANCIENS CONSEILS | DESIGNATED BOARDS/ CONSEILS DÉSIGNÉS | SUPPORTED BOARDS/ CONSEILS SECONDÉS |
| 1. | The Timmins Board of Education | 1 | 56 |
| 2. | The Kapuskasing-Smooth Rock Falls and District Board of Education/Le conseil de l'éducation de Kapuskasing-Smooth Rock Falls et de son district | 1 | 56 |
| 3. | The Hearst Board of Education | 1 | 56 |
| 4. | The Cochrane-Iroquois Falls, Black River-Matheson Board of Education | 1 | 56 |
| 5. | The Kirkland Lake Board of Education | 1 | 56 |
| 6. | The Timiskaming Board of Education | 1 | 56 |
| 7. | The Chapleau Board of Education | 2 | 57 |
| 8. | The Michipicoten Board of Education | 2 | 57 |
| 9. | The Sault Ste. Marie Board of Education | 2 | 57 |
| 10. | The Central Algoma Board of Education | 2 | 57 |
| 11. | The North Shore Board of Education | 2 | 57 |
| 12. | The Hornepayne Board of Education | 2 | 57 |
| 13. | The Sudbury Board of Education | 3 | 57 |
| 14. | The Espanola Board of Education | 3 | 57 |
| 15. | The Manitoulin Board of Education | 3 | 57 |
| 16. | The Nipissing Board of Education | 4 | 56 |
| 17. | The East Parry Sound Board of Education | 4 | 56 |
| 18. | The West Parry Sound Board of Education | 4 | 56 |
| 19. | The Kenora Board of Education | 5A | 57 |
| 20. | The Red Lake Board of Education | 5A | 57 |
| 21. | The Dryden Board of Education | 5A | 57 |
| 22. | The Fort Frances-Rainy River Board of Education | 5B | 57 |
| 23. | The Atikokan Board of Education | 5B | 57 |
| 24. | The Lakehead Board of Education | 6A | 57 |

| | COLUMN 1/COLONNE 1 | COLUMN 2/COLONNE 2 | COLUMN 3/COLONNE 3 |
|----------------|---|---|--|
| ITEM/ POINT | OLD BOARDS/ ANCIENS CONSEILS | DESIGNATED BOARDS/ CONSEILS DÉSIGNÉS | SUPPORTED BOARDS/ CONSEILS SECONDÉS |
| 25. | The Beardmore, Geraldton, Longlac and Area Board of Education/Conseil de l'éducation de Beardmore, de Geraldton, de Longlac et des environs | 6B | 57 |
| 26. | The Nipigon-Red Rock Board of Education | 6B | 57 |
| 27. | The Lake Superior Board of Education/Le conseil scolaire du Lac Supérieur | 6B | 57 |
| 28. | The Bruce County Board of Education | 7 | 58 |
| 29. | The Grey Board of Education | 7 | 58 |
| 30. | The Huron County Board of Education | 8 | 58 |
| 31. | The Perth County Board of Education | 8 | 58 |
| 32. | The Board of Education for the City of Windsor | 9 | 58 |
| 33. | The Essex County Board of Education | 9 | 58 |
| 34. | The Kent County Board of Education | 10 | 58 |
| 35. | The Lambton County Board of Education/Conseil de l'éducation du comté de Lambton | 10 | 58 |
| 36. | The Board of Education for the City of London/Le conseil de l'éducation de la ville de London | 11 | 58 |
| 37. | The Middlesex Board of Education | 11 | 58 |
| 38. | The Elgin County Board of Education | 11 | 58 |
| 39. | The Oxford County Board of Education | 11 | 58 |
| 40. | The Metropolitan Toronto School Board | 12 | 58 |
| 41. | The Board of Education for the City of North York | 12 | 58 |
| 42. | The Board of Education for the City of Scarborough | 12 | 58 |
| 43. | The Board of Education for the City of Etobicoke | 12 | 58 |
| 44. | The Board of Education for the City of Toronto | 12 | 58 |
| 45. | The Board of Education for the City of York | 12 | 58 |
| 46. | The Board of Education for the Borough of East York | 12 | 58 |
| 47. | The Durham Board of Education | 13 | 58 |
| 48. | The Northumberland & Clarington Board of Education | 14 | 58 |
| 49. | The Peterborough County Board of Education | 14 | 58 |
| 50. | The Victoria County Board of Education | 15 | 58 |
| 51. | The Haliburton County Board of Education | 15 | 58 |
| 52. | The Muskoka Board of Education | 15 | 56 |
| 53. | The York Region Board of Education | 16 | 58 |
| 54. | The Simcoe County Board of Education | 17 | 58 |
| 55. | The Wellington County Board of Education | 18 | 58 |
| 56. | The Dufferin County Board of Education | 18 | 58 |
| 57. | The Peel Board of Education | 19 | 58 |
| 58. | The Halton Board of Education | 20 | 58 |
| 59. | The Board of Education for the City of Hamilton/Le conseil de l'éducation de la ville de Hamilton | 21 | 58 |
| 60. | The Wentworth County Board of Education | 21 | 58 |
| 61. | The Lincoln County Board of Education | 22 | 58 |
| 62. | The Niagara South Board of Education/Conseil scolaire de Niagara Sud | 22 | 58 |

| | COLUMN 1/COLONNE 1 | COLUMN 2/COLONNE 2 | COLUMN 3/COLONNE 3 |
|----------------|--|---|--|
| ITEM/ POINT | OLD BOARDS/ ANCIENS CONSEILS | DESIGNATED BOARDS/ CONSEILS DÉSIGNÉS | SUPPORTED BOARDS/ CONSEILS SECONDÉS |
| 63. | The Haldimand Board of Education | 23 | 58 |
| 64. | The Norfolk Board of Education | 23 | 58 |
| 65. | The Brant County Board of Education | 23 | 58 |
| 66. | The Waterloo County Board of Education | 24 | 58 |
| 67. | The Ottawa Board of Education | 25 | |
| 68. | The Carleton Board of Education | 25 | |
| 69. | The Lanark County Board of Education | 26 | 59 |
| 70. | The Leeds & Grenville County Board of Education | 26 | 59 |
| 71. | The Prescott & Russell County Board of Education | 26 | 59 |
| 72. | The Stormont, Dundas & Glengarry County Board of Education | 26 | 59 |
| 73. | The Lennox & Addington County Board of Education | 27 | 59 |
| 74. | The Frontenac County Board of Education | 27 | 59 |
| 75. | The Renfrew County Board of Education | 28 | 59 |
| 76. | The Prince Edward County Board of Education | 29 | 59 |
| 77. | Hastings County Board of Education | 29 | 59 |
| 78. | The Hearst District Roman Catholic Separate School Board | 60A | 30A |
| 79. | The Cochrane, Iroquois Falls/Black River - Matheson District Roman Catholic Separate School Board | 60A | 30A |
| 80. | The Timmins District Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques du district de Timmins | 60A | 30A |
| 81. | The Kapuskasing District Roman Catholic Separate School Board/Conseil des écoles séparées catholiques du district de Kapuskasing | 60A | 30A |
| 82. | The Kirkland Lake-Timiskaming District Roman Catholic Separate School Board/Conseil des écoles séparées catholiques du district de Kirkland Lake - Timiskaming | 60A | 30A |
| 83. | The Nipissing District Roman Catholic Separate School Board | 60B | 30B |
| 84. | The Sault Ste. Marie District Roman Catholic Separate School Board | 31 | 61 |
| 85. | The Michipicoten District Roman Catholic Separate School Board | 31 | 61 |
| 86. | The North Shore District Roman Catholic Separate School Board | 31 | 61 |
| 87. | The Chapleau District Roman Catholic Separate School Board | 61 | 31 |
| 88. | The Sudbury District Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques romaines de Sudbury | 61 | 32 |
| 89. | The Fort Frances-Rainy River District Roman Catholic Separate School Board | 33a | 62 |
| 90. | The Dryden District Roman Catholic Separate School Board | 33a | 62 |
| 91. | The Kenora District Roman Catholic Separate School Board | 33b | 62 |
| 92. | The Lakehead District Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques du district de Lakehead | 34a | 62 |
| 93. | The Geraldton District Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques du district de Geraldton | 34b | 62 |
| 94. | The North of Superior District Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques du district Supérieur Nord | 34b | 62 |
| 95. | The Bruce-Grey County Roman Catholic Separate School Board | 35 | 63 |
| 96. | The Huron-Perth County Roman Catholic Separate School Board | 36 | 63 |
| 97. | The Windsor Roman Catholic Separate School Board/Le conseil de l'éducation catholique de Windsor | 37 | 63 |

| | COLUMN 1/COLONNE 1 | COLUMN 2/COLONNE 2 | COLUMN 3/COLONNE 3 |
|----------------|---|---|--|
| ITEM/ POINT | OLD BOARDS/ ANCIENS CONSEILS | DESIGNATED BOARDS/ CONSEILS DÉSIGNÉS | SUPPORTED BOARDS/ CONSEILS SECONDÉS |
| 98. | The Essex County Roman Catholic Separate School Board/Conseil des écoles séparées catholiques du comté d'Essex | 37 | 63 |
| 99. | The London and Middlesex County Roman Catholic Separate School Board/Le conseil des écoles catholiques de London et du comté de Middlesex | 38 | 63 |
| 100. | The Elgin County Roman Catholic Separate School Board | 38 | 63 |
| 101. | The Oxford County Roman Catholic Separate School Board/Conseil des écoles séparées catholiques romaines du comté d'Oxford | 38 | 63 |
| 102. | The Kent County Roman Catholic Separate School Board/Conseil des écoles séparées catholiques de Kent | 39 | 63 |
| 103. | The Lambton County Roman Catholic Separate School Board/Conseil des écoles séparées catholiques du comté de Lambton | 39 | 63 |
| 104. | The Metropolitan Separate School Board/Conseil des écoles catholiques du Grand Toronto | 40 | 64 |
| 105. | The Peterborough, Victoria, Northumberland & Clarington Roman Catholic Separate School Board | 41 | 64 |
| 106. | The York Region Roman Catholic Separate School Board/Conseil des écoles séparées catholiques de la région de York | 42 | 64 |
| 107. | The Dufferin-Peel Roman Catholic Separate School Board/Conseil des écoles séparées catholiques de Dufferin & Peel | 43 | 64 |
| 108. | The Simcoe County Roman Catholic Separate School Board | 44 | 64 |
| 109. | The Durham Region Roman Catholic Separate School Board/Conseil des écoles séparées catholiques de la région de Durham | 45 | 64 |
| 110. | The Halton Roman Catholic Separate School Board/Conseil des écoles catholiques de Halton | 46 | 64 |
| 111. | The Hamilton-Wentworth Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques romaines de Hamilton-Wentworth | 47 | 64 |
| 112. | The Wellington County Roman Catholic Separate School Board/Conseil des écoles séparées catholiques de Wellington | 48 | 64 |
| 113. | The Waterloo Region Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques de la région de Waterloo | 49 | 64 |
| 114. | The Lincoln County Roman Catholic Separate School Board/Le conseil des écoles catholiques du comté de Lincoln | 50 | 64 |
| 115. | The Welland County Roman Catholic Separate School Board/Le conseil scolaire des écoles catholiques romaines du comté de Welland | 50 | 64 |
| 116. | The Haldimand-Norfolk Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques de Haldimand-Norfolk | 51 | 64 |
| 117. | The Brant County Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques du comté de Brant | 51 | 64 |
| 118. | The Lanark, Leeds & Grenville County Roman Catholic Separate School Board | 52 | 66 |
| 119. | The Prescott & Russell County Roman Catholic English-Language Separate School Board | 52 | |
| 120. | The Stormont, Dundas and Glengarry County Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques des comtés de Stormont, Dundas et Glengarry | 65 | 52 |
| 121. | The Ottawa Roman Catholic Separate School Board | 53 | |
| 122. | The Carleton Roman Catholic Separate School Board | 53 | |
| 123. | The Renfrew County Roman Catholic Separate School Board | 54 | 66 |
| 124. | The Hastings-Prince Edward County Roman Catholic Separate School Board | 55 | 66 |

| | COLUMN 1/COLONNE 1 | COLUMN 2/COLONNE 2 | COLUMN 3/COLONNE 3 |
|----------------|---|---|--|
| ITEM/ POINT | OLD BOARDS/ ANCIENS CONSEILS | DESIGNATED BOARDS/ CONSEILS DÉSIGNÉS | SUPPORTED BOARDS/ CONSEILS SECONDÉS |
| 125. | The Frontenac-Lennox and Addington County Roman Catholic Separate School Board | 55 | 66 |
| 126. | Conseil des écoles françaises de la communauté urbaine de Toronto/The Metropolitan Toronto French-Language School Council | 12 | 58 |
| 127. | Le Conseil des écoles publiques d'Ottawa-Carleton | 59 | |
| 128. | Conseil des écoles séparées catholiques de langue française de Prescott-Russell | 65 | |
| 129. | Conseil des écoles catholiques de langue française de la région d'Ottawa-Carleton | 66 | |

Schedule 2/Annexe 2

| | COLUMN 1/COLONNE 1 | COLUMN 2/COLONNE 2 |
|----------------|---|---|
| ITEM/ POINT | OLD BOARDS/ ANCIENS CONSEILS | OLD BOARDS/ ANCIENS CONSEILS |
| 1. | The Chapleau District Roman Catholic Separate School Board | The Chapleau Board of Education |
| 2. | The Michipicoten District Roman Catholic Separate School Board | The Michipicoten Board of Education |
| 3. | The North Shore District Roman Catholic Separate School Board | The North Shore Board of Education The Espanola Board of Education |
| 4. | The Dryden District Roman Catholic Separate School Board | The Dryden Board of Education |
| 5. | The Fort Frances-Rainy River District Roman Catholic Separate School Board | The Fort Frances-Rainy River Board of Education |
| 6. | The Geraldton District Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques du district de Geraldton | The Beardmore, Geraldton, Longlac and Area Board of Education/Conseil de l'éducation de Beardmore, de Geraldton, de Longlac et des environs |
| 7. | The North of Superior District Roman Catholic Separate School Board/Le conseil des écoles séparées catholiques du district Supérieur Nord | The Nipigon-Red Rock Board of Education The Lake Superior Board of Education/Le conseil scolaire du Lac Supérieur |

52/97

ONTARIO REGULATION 461/97
made under the
EDUCATION ACT

Made: December 10, 1997
Filed: December 11, 1997

PUPIL REPRESENTATION ON BOARDS

1. (1) Every board shall develop and implement a policy providing for the representation of the interests of pupils on the board.

(2) The policy shall be in accordance with this regulation and with any policies and guidelines issued by the Minister under paragraph 3.5 of subsection 8 (1) of the Act.

2. (1) Each board shall have one pupil representative or such greater number of pupil representatives as is specified in the policy.

RÈGLEMENT DE L'ONTARIO 461/97
pris en application de la
LOI SUR L'ÉDUCATION

pris le 10 décembre 1997
déposé le 11 décembre 1997

**REPRÉSENTATION DES ÉLÈVES
AU SEIN DES CONSEILS**

1. (1) Chaque conseil élabore et met en œuvre une politique prévoyant la représentation des intérêts des élèves en son sein.

(2) La politique est conforme au présent règlement et à toute politique établie et ligne directrice donnée par le ministre en vertu de la disposition 3.5 du paragraphe 8 (1) de la Loi.

2. (1) Chaque conseil compte un représentant des élèves ou le nombre plus élevé de représentants que précise la politique.

(2) A pupil representative must be in the last two years of the intermediate division or in the senior division at the time that he or she is elected or appointed.

3. (1) The policy shall specify whether the pupil representatives are to be chosen by peer election or by appointment and shall specify the procedures to be followed for the purpose.

(2) The procedures specified under subsection (1) shall ensure that the elections or appointments occur not later than June 30 in each school year, to take effect with respect to the following school year.

(3) The policy shall provide for,

(a) the type and extent of participation by pupil representatives;

(b) disqualification of pupil representatives;

(c) the filling of vacancies;

(d) the term of office of pupil representatives.

(4) With respect to the type and extent of participation by pupil representatives, the policy shall provide that, subject to subsections 55 (3) and (5) of the Act, pupil representatives have at least the same opportunity for participation at meetings of the board and at meetings of committees of the board as a board member has.

4. (1) The policy may provide for reimbursement of pupil representatives for all or part of their out-of-pocket expenses reasonably incurred in connection with carrying out the responsibilities of pupil representatives.

(2) Where reimbursement of expenses is provided for under subsection (1), it shall be according to the same policies as govern the reimbursement of board members for such expenses.

5. This Regulation comes into force on the day section 30 of the *Education Quality Improvement Act, 1997* comes into force.

52/97

ONTARIO REGULATION 462/97
made under the
EDUCATION ACT

Made: December 10, 1997
Filed: December 11, 1997

NATIVE REPRESENTATION ON BOARDS

1. (1) Where a board has entered into one or more agreements under section 188 of the Act, the council of the band, or the councils of the bands, to which the Indian pupils who are, under the agreement or agreements, enrolled in the schools operated by the board or in the schools in which the board provides all the instruction, belong, may, subject to subsection (4), name one person to represent on the board the interests of the Indian pupils.

(2) Where a person is named under subsection (1), the board shall, subject to subsection (5), appoint the person a member of the board.

(3) The member appointed under subsection (2) shall be deemed to be an elected member of the board, except that,

(a) where the agreement with the board under this section or, where there is more than one such agreement, all the agreements with

(2) Les représentants des élèves doivent être inscrits à l'une ou l'autre des deux dernières années du cycle intermédiaire ou au cycle supérieur au moment où ils sont élus ou nommés.

3. (1) La politique précise si les représentants des élèves doivent être choisis par voie d'élection par leurs pairs ou de nomination et en précise également les modalités.

(2) Les modalités précisées aux termes du paragraphe (1) font en sorte que les élections ou les nominations aient lieu au plus tard le 30 juin de l'année scolaire, de manière à prendre effet l'année scolaire suivante.

(3) La politique prévoit ce qui suit :

a) la nature et l'étendue de la participation des représentants des élèves;

b) l'inhabilité ou l'inéligibilité des représentants des élèves;

c) la façon de combler les vacances;

d) le mandat des représentants des élèves.

(4) En ce qui concerne la nature et l'étendue de leur participation, la politique prévoit que, sous réserve des paragraphes 55 (3) et (5) de la Loi, les représentants des élèves jouissent d'au moins les mêmes possibilités de participation aux réunions du conseil et de ses comités qu'un membre du conseil.

4. (1) La politique peut prévoir le remboursement de tout ou partie des frais raisonnables que les représentants des élèves engagent dans l'exercice de leurs fonctions de représentants des élèves.

(2) Le remboursement des frais qui est prévu au paragraphe (1) est subordonné aux mêmes politiques que celles qui régissent le remboursement des frais de ce genre qu'engagent les membres du conseil.

5. Le présent règlement entre en vigueur le jour où l'article 30 de la *Loi de 1997 sur l'amélioration de la qualité de l'éducation* entre en vigueur.

RÈGLEMENT DE L'ONTARIO 462/97
pris en application de la
LOI SUR L'ÉDUCATION

pris le 10 décembre 1997
déposé le 11 décembre 1997

**REPRÉSENTATION DES ÉLÈVES INDIENS
AU SEIN DES CONSEILS**

1. (1) Si le conseil a conclu une ou plusieurs ententes en vertu de l'article 188 de la Loi, le ou les conseils de la ou des bandes dont font partie les élèves indiens qui sont inscrits aux termes de celles-ci aux écoles qui relèvent du conseil ou aux écoles où le conseil dispense tout l'enseignement peuvent, sous réserve du paragraphe (4), désigner une personne pour représenter les intérêts des élèves indiens au sein du conseil.

(2) Si une personne est désignée aux termes du paragraphe (1), le conseil, sous réserve du paragraphe (5), la nomme membre du conseil.

(3) Le membre nommé aux termes du paragraphe (2) est réputé un membre élu du conseil. Toutefois :

a) si l'entente ou toutes les ententes, s'il y en a plus d'une, qui sont conclues avec le conseil en vertu du présent article ne visent que

the board under this section are in respect of secondary school pupils only, the member so appointed is a member for secondary school purposes only and shall not vote on a motion or otherwise take part in any proceedings that affect elementary schools exclusively; and

- (b) where the agreement with the board under this section or, where there is more than one such agreement, all the agreements with the board under this section are in respect of elementary school pupils only, the member so appointed is a member for elementary school purposes only and shall not vote on a motion or otherwise take part in any proceedings that affect secondary schools exclusively.

(4) Where the number of Indian pupils enrolled in the schools under the jurisdiction of a board under one or more agreements made under this section exceeds 25 per cent of the average daily enrolment in the schools of the board, two persons may be named under subsection (1), and subsections (1) to (3) apply with necessary modifications in respect of the two persons.

(5) Where the number of Indian pupils enrolled in the schools under the jurisdiction of the board under one or more agreements made under this section is fewer than the lesser of 10 per cent of the average daily enrolment in the schools of the board and 100, the appointment under subsection (2) may be made at the discretion of the board.

(6) For the purpose of determining the number of Indian pupils enrolled in the schools under the jurisdiction of a board referred to in subsection (4) or (5), the number of Indian pupils in Indian schools in which the board provides all the instruction shall be included.

(7) Where the agreement is, or the agreements are, in respect of elementary school pupils only or secondary school pupils only, the enrolment referred to in subsections (4) and (5) shall be that of elementary school pupils only or secondary school pupils only, as the case may be.

(8) The term of office of a member appointed under this section terminates on the same date as the term of office of the elected members.

(9) Where a regulation made under clause 67 (2) (a) of the Act provides for the appointment of one or more members to represent on the board the interests of Indian pupils, this section does not apply.

(10) Where the office of a member of a board appointed under this section becomes vacant for any reason, it shall be filled in accordance with this section and the person so appointed shall hold office for the remainder of the term of his or her predecessor.

2. This Regulation comes into force on the day section 95 of the *Education Quality Improvement Act, 1997* comes into force.

les élèves du niveau secondaire, le membre ainsi nommé n'est membre qu'aux fins des écoles secondaires et ne doit pas voter sur une motion qui concerne exclusivement les écoles élémentaires ni prendre part d'une autre façon aux délibérations qui se rapportent à celles-ci;

- b) si l'entente ou toutes les ententes, s'il y en a plus d'une, qui sont conclues avec le conseil en vertu du présent article ne visent que les élèves du niveau élémentaire, le membre ainsi nommé n'est membre qu'aux fins des écoles élémentaires et ne doit pas voter sur une motion qui concerne exclusivement les écoles secondaires ni prendre part d'une autre façon aux délibérations qui se rapportent à celles-ci.

(4) Si le nombre d'élèves indiens inscrits aux écoles qui relèvent du conseil aux termes d'une ou de plusieurs ententes conclues en vertu du présent article est supérieur à 25 pour cent de l'effectif quotidien moyen des écoles du conseil, deux personnes peuvent être désignées en vertu du paragraphe (1). Les paragraphes (1) à (3) s'appliquent, avec les adaptations nécessaires, à l'égard de ces deux personnes.

(5) Si le nombre d'élèves indiens inscrits aux écoles qui relèvent du conseil aux termes d'une ou de plusieurs ententes conclues en vertu du présent article est inférieur au moindre de 10 pour cent de l'effectif quotidien moyen des écoles du conseil et de 100, le conseil peut procéder à la nomination prévue au paragraphe (2) à sa discrétion.

(6) Lorsqu'il s'agit de déterminer le nombre d'élèves indiens inscrits aux écoles qui relèvent du conseil visé au paragraphe (4) ou (5), il faut inclure le nombre d'élèves indiens qui fréquentent les écoles indiennes où le conseil dispense tout l'enseignement.

(7) Si l'entente ou les ententes ne visent que les élèves du niveau élémentaire ou les élèves du niveau secondaire, l'effectif mentionné aux paragraphes (4) et (5) correspond à celui des élèves du niveau élémentaire ou à celui des élèves du niveau secondaire, selon le cas.

(8) Le mandat des membres nommés en vertu du présent article expire à la même date que celui des membres élus.

(9) Si un règlement pris en application de l'alinéa 67 (2) a) de la Loi prévoit la nomination d'un ou de plusieurs membres pour représenter les intérêts des élèves indiens au sein du conseil, le présent article ne s'applique pas.

(10) Si le poste d'un membre du conseil nommé en vertu du présent article devient vacant pour une raison quelconque, il y est pourvu conformément au présent article. Le remplaçant demeure en fonction jusqu'à l'expiration du mandat de son prédécesseur.

2. Le présent règlement entre en vigueur le jour où l'article 95 de la Loi de 1997 sur l'amélioration de la qualité de l'éducation entre en vigueur.

52/97

ONTARIO REGULATION 463/97 made under the EDUCATION ACT

Made: December 10, 1997
Filed: December 11, 1997

ELECTRONIC MEETINGS

1. Subject to any conditions or limitations provided for under the Act or under this regulation, a member of a district school board who participates in a meeting through electronic means in accordance with this regulation shall be deemed to be present at the meeting for the purposes of every Act.

RÈGLEMENT DE L'ONTARIO 463/97 pris en application de la LOI SUR L'ÉDUCATION

pris le 10 décembre 1997
déposé le 11 décembre 1997

RÉUNIONS ÉLECTRONIQUES

1. Sous réserve des conditions ou restrictions que prévoit la Loi ou le présent règlement, le membre d'un conseil scolaire de district qui participe à une réunion par des moyens électroniques conformément au présent règlement est réputé présent à la réunion pour l'application de toute loi.

2. (1) Every district school board shall develop and implement a policy providing for the use of electronic means for the holding of meetings of a district school board and meetings of a committee of a district school board, including a committee of the whole board.

(2) The policy shall be in accordance with this regulation and with any policies established and guidelines issued by the Minister under paragraph 3.6 of subsection 8 (1) of the Act.

3. (1) The policy shall provide for the following:

1. At the request of any board member or pupil representative, the board shall provide the member or representative with electronic means for participating in one or more meetings of the board or of a committee of the board, including a committee of the whole board.

2. The electronic means required by paragraph 1 shall permit the member or representative to hear and be heard by all other participants in the meeting.

3. The electronic means shall be provided in such a way that the rules governing conflict of interest of members are complied with.

(2) The policy shall ensure that pupil representatives who are participating through electronic means do not participate in any proceedings that are closed to the public in accordance with the Act.

4. (1) Subsection (2) applies in respect of meetings of the board or of a committee of the board, including a committee of the whole board, that are open to the public.

(2) Every board shall determine, in accordance with any policies established and guidelines issued under paragraph 3.6 of subsection 8 (1) of the Act, whether electronic means should be provided at one or more locations within the area of jurisdiction of the board, to permit participation by members of the public in meetings or classes of meetings.

(3) Where the board determines that electronic means should be provided under this section, the board's policy shall,

(a) provide for the extent and manner of participation by members of the public through electronic means; and

(b) ensure that members of the public who are participating through electronic means do not participate in any proceedings that are closed to the public in accordance with the Act.

5. (1) The policy shall require that, at every meeting of the board or of a committee of the whole board, the following persons be physically present in the meeting room of the board:

1. The chair of the board or his or her designate.

2. At least one additional member of the board.

3. The director of education of the board or his or her designate.

(2) The policy shall require that, at every meeting of a committee of the board, except a committee of the whole board, the following persons be physically present in the meeting room of the committee:

1. The chair of the committee or his or her designate.

2. The director of education of the board or his or her designate.

(3) Despite paragraph 1 of subsection 3 (1), the policy shall include provisions permitting the board to refuse to provide a member with electronic means of participation in a meeting of the board, a meeting of a committee of the whole board or a meeting of any other committee of the board, where to do so is necessary to ensure compliance with this section.

2. (1) Chaque conseil scolaire de district élabore et met en œuvre une politique prévoyant l'emploi de moyens électroniques pour la tenue de ses réunions et de celles de ses comités, y compris un comité plénier.

(2) La politique est conforme au présent règlement et à toute politique établie et ligne directrice donnée par le ministre en vertu de la disposition 3.6 du paragraphe 8 (1) de la Loi.

3. (1) La politique prévoit ce qui suit :

1. Le conseil fournit au membre ou au représentant des élèves qui le lui demande les moyens électroniques nécessaires pour participer à une ou plusieurs de ses réunions ou de celles de ses comités, y compris un comité plénier.

2. Les moyens électroniques qu'exige la disposition 1 permettent au membre ou au représentant d'entendre tous les autres participants à la réunion et de se faire entendre par eux.

3. Les moyens électroniques sont fournis de façon que les règles régissant les conflits d'intérêts des membres soient observées.

(2) La politique fait en sorte que les représentants des élèves qui participent à une réunion par des moyens électroniques ne participent à aucune instance qui se tient à huis clos conformément à la Loi.

4. (1) Le paragraphe (2) s'applique à l'égard des réunions du conseil ou de celles de ses comités, y compris un comité plénier, qui sont publiques.

(2) Chaque conseil détermine, conformément à toute politique établie et ligne directrice donnée en vertu de la disposition 3.6 du paragraphe 8 (1) de la Loi, si des moyens électroniques devraient être fournis à un ou plusieurs endroits dans son territoire de compétence pour permettre aux membres du public de participer aux réunions ou à des catégories de réunions.

(3) Si le conseil détermine que des moyens électroniques devraient être fournis aux termes du présent article, sa politique :

a) prévoit le mode de participation des membres du public par des moyens électroniques, ainsi que l'étendue de leur participation;

b) fait en sorte que les membres du public qui participent à une réunion par des moyens électroniques ne participent à aucune instance qui se tient à huis clos conformément à la Loi.

5. (1) La politique exige que les personnes suivantes soient physiquement présentes dans la salle de réunion du conseil à chaque réunion du conseil ou d'un comité plénier :

1. Le président du conseil ou la personne qu'il désigne.

2. Au moins un autre membre du conseil.

3. Le directeur de l'éducation du conseil ou la personne qu'il désigne.

(2) La politique exige que les personnes suivantes soient physiquement présentes dans la salle de réunion du comité à chaque réunion d'un comité du conseil, à l'exception d'un comité plénier :

1. Le président du comité ou la personne qu'il désigne.

2. Le directeur de l'éducation du conseil ou la personne qu'il désigne.

(3) Malgré la disposition 1 du paragraphe 3 (1), la politique comprend des dispositions qui permettent au conseil de refuser de fournir à un membre les moyens électroniques nécessaires pour participer à une de ses réunions ou à une réunion d'un comité plénier ou d'un autre comité du conseil si cela est nécessaire pour assurer le respect du présent article.

6. (1) The meeting room of the board or of a committee of the board, as the case may be, shall be open to permit physical attendance by members of the public at every meeting of the board or of the committee of the board.

(2) For the purposes of subsection (1), the meeting room of a committee of the whole board is the meeting room of the board.

(3) Subsection (1) does not apply where a meeting is closed to the public in accordance with the Act.

7. This Regulation comes into force on the day section 107 of the *Education Quality Improvement Act, 1997* comes into force.

52/97

ONTARIO REGULATION 464/97
made under the
EDUCATION ACT

Made: December 10, 1997
Filed: December 11, 1997

**SPECIAL EDUCATION ADVISORY
COMMITTEES**

1. In this Regulation,

“local association” means an association or organization of parents that operates locally within the area of jurisdiction of a board and that is affiliated with an association or organization that is not an association or organization of professional educators but that is incorporated and operates throughout Ontario to further the interests and well-being of one or more groups of exceptional children or adults.

2. (1) Every district school board shall establish a special education advisory committee that shall consist of,

- (a) subject to subsections (2) and (3), one representative from each of the local associations that operates locally within the area of jurisdiction of the board, as nominated by the local association and appointed by the board;
- (b) one alternate for each representative appointed under clause (a), as nominated by the local association and appointed by the board;
- (c) such number of members from among the board's own members as is determined under subsection (4), as appointed by the board;
- (d) where the number of members appointed under clause (c) is less than three, one alternate, as appointed by the board from among its own members, for each member appointed under clause (c);
- (e) one or two persons to represent the interests of Indian pupils, as provided by section 4; and
- (f) one or more additional members appointed under subsection (5).

(2) The board shall not appoint more than 12 representatives under clause (1) (a).

(3) Where there are more than 12 local associations within the area of jurisdiction of the board, the board shall select the 12 local associations that shall be represented.

6. (1) La salle de réunion du conseil ou d'un de ses comités, selon le cas, est ouverte de façon à permettre aux membres du public d'assister en personne à chaque réunion du conseil ou du comité en question.

(2) Pour l'application du paragraphe (1), la salle de réunion d'un comité plénier du conseil est la salle de réunion du conseil.

(3) Le paragraphe (1) ne s'applique pas si la réunion se tient à huis clos conformément à la Loi.

7. Le présent règlement entre en vigueur le jour où l'article 107 de la Loi de 1997 sur l'amélioration de la qualité de l'éducation entre en vigueur.

RÈGLEMENT DE L'ONTARIO 464/97
pris en application de la
LOI SUR L'ÉDUCATION

pris le 10 décembre 1997
déposé le 11 décembre 1997

**COMITÉS CONSULTATIFS POUR
L'ENFANCE EN DIFFICULTÉ**

1. La définition qui suit s'applique au présent règlement.

«association locale» Association ou groupe de parents qui exerce ses activités sur le plan local dans le territoire de compétence d'un conseil et qui est affilié à une association ou à un groupe qui n'est pas une association ou un groupe d'éducateurs professionnels mais qui est constitué en personne morale et exerce ses activités dans tout l'Ontario pour favoriser les intérêts et le bien-être d'un ou de plusieurs groupes d'enfants ou d'adultes en difficulté.

2. (1) Chaque conseil scolaire de district crée un comité consultatif pour l'enfance en difficulté qui comprend les personnes suivantes :

- a) sous réserve des paragraphes (2) et (3), un représentant de chacune des associations locales qui exerce ses activités sur le plan local dans le territoire de compétence du conseil, qui est mis en candidature par l'association locale et nommé par le conseil;
- b) un membre suppléant pour chaque représentant nommé aux termes de l'alinéa a), qui est mis en candidature par l'association locale et nommé par le conseil;
- c) les membres dont le nombre est déterminé aux termes du paragraphe (4) et qui sont nommés par le conseil parmi ses membres;
- d) si le nombre de membres nommés aux termes de l'alinéa c) est inférieur à trois, un membre suppléant pour chacun de ces membres ainsi nommés, qui est nommé par le conseil parmi ses membres;
- e) une ou deux personnes pour représenter les intérêts des élèves indiens, conformément à l'article 4;
- f) un ou plusieurs autres membres nommés en vertu du paragraphe (5).

(2) Le conseil ne doit pas nommer plus de 12 représentants aux termes de l'alinéa (1) a).

(3) S'il existe plus de 12 associations locales dans le territoire de compétence du conseil, celui-ci choisit les 12 associations locales qui sont représentées.

(4) The number to be appointed by the board under clause (1) (c) shall be the lesser of,

(a) three; and

(b) 25 per cent of the total number of members of the board, rounded down to the nearest whole number.

(5) For the purposes of clause (1) (f), the board may appoint one or more additional members who are neither representatives of a local association nor members of the board or another committee of the board.

3. (1) Every school authority, other than a board established under section 68 of the Act, shall establish a special education advisory committee that shall consist of,

(a) two representatives from the local associations that operate locally within the area of jurisdiction of the board, as nominated by the local associations and appointed by the board;

(b) one alternate for each representative appointed under clause (a), as nominated by the local associations and appointed by the board;

(c) one member from among the board's own members, as appointed by the board;

(d) one alternate, as appointed by the board from among its own members, for the member appointed under clause (c); and

(e) one or two persons to represent the interests of Indian pupils, as provided by section 4.

(2) Where no local association or associations have been established, instead of the members and alternates required by clauses (1) (a) and (b), the board shall appoint two members and two alternates who are not members of the board.

4. (1) Where a board has one member appointed in accordance with a regulation made under section 188 of the Act, the special education advisory committee shall include one person appointed to represent the interests of Indian pupils.

(2) Where a board has more than one member appointed in accordance with a regulation made under section 188 of the Act, the special education advisory committee shall include two persons appointed to represent the interests of Indian pupils.

(3) One alternate shall be appointed for each person appointed in accordance with subsection (1) or (2).

(4) The representatives and alternates shall be nominated by the councils of the bands with which the board has entered into agreements under section 188 of the Act.

(5) The board shall appoint the persons nominated under subsection (4).

5. (1) A person is not qualified to be nominated or appointed under section 2 or 3 to a special education advisory committee of a board unless the person is qualified to vote for members of that board and is resident in its area of jurisdiction.

(2) Subsection (1) does not apply in respect of persons appointed under section 4.

(3) A person is not qualified to be nominated or appointed under section 2, 3 or 4 if the person is employed by the board.

(4) Le nombre de membres que le conseil doit nommer aux termes de l'alinéa (1) c) correspond au moins élevé des nombres suivants :

a) trois;

b) 25 pour cent du nombre total de membres du conseil, arrondi à la baisse au chiffre entier le plus proche.

(5) Pour l'application de l'alinéa (1) f), le conseil peut nommer un ou plusieurs autres membres qui ne représentent pas une association locale, ni ne sont membres du conseil ou d'un autre de ses comités.

3. (1) Chaque administration scolaire, à l'exception d'un conseil créé aux termes de l'article 68 de la Loi, crée un comité consultatif pour l'enfance en difficulté qui comprend les personnes suivantes :

a) deux représentants des associations locales qui exercent leurs activités sur le plan local dans le territoire de compétence du conseil, qui sont mis en candidature par les associations locales et nommés par le conseil;

b) un membre suppléant pour chaque représentant nommé aux termes de l'alinéa a), qui est mis en candidature par les associations locales et nommé par le conseil;

c) un membre nommé par le conseil parmi ses membres;

d) un membre suppléant, qui est nommé par le conseil parmi ses membres, pour le membre nommé aux termes de l'alinéa c);

e) une ou deux personnes pour représenter les intérêts des élèves indiens, conformément à l'article 4.

(2) En l'absence d'association locale, le conseil, au lieu de nommer les membres et les membres suppléants qu'exigent les alinéas (1) a) et b), nomme deux membres et deux membres suppléants qui ne sont pas membres du conseil.

4. (1) Si un conseil inclut un membre nommé conformément à un règlement pris en application de l'article 188 de la Loi, le comité consultatif pour l'enfance en difficulté comprend une personne nommée pour représenter les intérêts des élèves indiens.

(2) Si un conseil inclut plus d'un membre nommé conformément à un règlement pris en application de l'article 188 de la Loi, le comité consultatif pour l'enfance en difficulté comprend deux personnes nommées pour représenter les intérêts des élèves indiens.

(3) Un membre suppléant est nommé pour chaque personne nommée conformément au paragraphe (1) ou (2).

(4) Les représentants et les membres suppléants sont mis en candidature par les conseils de bandes avec lesquels le conseil a conclu des ententes en vertu de l'article 188 de la Loi.

(5) Le conseil nomme les personnes mises en candidature aux termes du paragraphe (4).

5. (1) Une personne ne satisfait pas aux conditions requises pour être mise en candidature ou nommée pour être membre d'un comité consultatif pour l'enfance en difficulté d'un conseil aux termes de l'article 2 ou 3, à moins qu'elle ne soit habilitée à voter lors de l'élection des membres de ce conseil et ne réside dans le territoire de compétence de celui-ci.

(2) Le paragraphe (1) ne s'applique pas aux personnes nommées aux termes de l'article 4.

(3) Une personne ne satisfait pas aux conditions requises pour être mise en candidature ou nommée aux termes de l'article 2, 3 ou 4 si elle est employée par le conseil.

6. Subject to section 7, each of the persons appointed to a special education advisory committee of a board shall hold office during the term of office of the members of the board and until a new board is organized.

7. (1) A member of a special education advisory committee vacates his or her seat if he or she,

- (a) is convicted of an indictable offence;
- (b) absents himself or herself without being authorized by resolution entered in the minutes from three consecutive regular meetings of the committee; or
- (c) ceases to hold the qualifications to be appointed to the committee.

(2) An alternate for a member of a special education advisory committee vacates his or her position if he or she,

- (a) is convicted of an indictable offence;
- (b) absents himself or herself without being authorized by resolution entered in the minutes from three consecutive regular meetings of the committee in respect of which the alternate received a notice under subsection 9 (9); or
- (c) ceases to hold the qualifications to be appointed as an alternate.

(3) Where a seat or position becomes vacant under this section, section 8 applies with respect to filling the vacancy.

(4) Despite subsection (3), where a member of the committee or an alternate for a member of a committee is convicted of an indictable offence, the vacancy or position shall not be filled until the time for taking any appeal that may be taken from the conviction has elapsed, or until the final determination of any appeal so taken, and in the event of the quashing of the conviction the seat or position shall be deemed not to have been vacated.

8. (1) If a seat or position on a special education advisory committee becomes vacant, the board that appointed the person whose seat or position has become vacant shall appoint a qualified person to fill the vacancy for the remainder of the term of the person whose seat or position has become vacant.

(2) The nomination requirements of sections 2, 3 and 4 apply with respect to appointments under this section.

(3) Where a seat of a member of the committee is vacant and has not yet been filled, the alternate for the member, if there is an alternate, shall act in the member's place for all purposes of this Regulation.

9. (1) A majority of the members of a special education advisory committee is a quorum, and a vote of a majority of the members present at a meeting is necessary to bind the committee.

(2) Every member present at a meeting, or his or her alternate when attending the meeting in his or her place, is entitled to one vote.

(3) The members of the committee shall, at their first meeting, elect one of their members as chair and one of their members as vice-chair.

(4) The vice-chair shall assist the chair and shall act for the chair at meetings in his or her absence.

(5) The chair or, in the absence of the chair, the vice-chair, shall preside at meetings.

6. Sous réserve de l'article 7, chacune des personnes nommées au comité consultatif pour l'enfance en difficulté d'un conseil demeure en fonction pendant la durée du mandat des membres du conseil et jusqu'à ce qu'un nouveau conseil soit constitué.

7. (1) Le membre d'un comité consultatif pour l'enfance en difficulté abandonne son poste si, selon le cas :

- a) il est déclaré coupable d'un acte criminel;
- b) il n'assiste pas, sans y avoir été autorisé par une résolution inscrite au procès-verbal, à trois réunions ordinaires consécutives du comité;
- c) il cesse de posséder les qualités requises pour être nommé au comité.

(2) Le suppléant d'un membre d'un comité consultatif pour l'enfance en difficulté abandonne son poste si, selon le cas :

- a) il est déclaré coupable d'un acte criminel;
- b) il n'assiste pas, sans y avoir été autorisé par une résolution inscrite au procès-verbal, à trois réunions ordinaires consécutives du comité à l'égard desquelles il a reçu un avis aux termes du paragraphe 9 (9);
- c) il cesse de posséder les qualités requises pour être nommé membre suppléant.

(3) Si un siège ou un poste devient vacant aux termes du présent article, l'article 8 s'applique en ce qui concerne la façon de combler la vacance.

(4) Malgré le paragraphe (3), si un membre ou un membre suppléant d'un comité est déclaré coupable d'un acte criminel, la vacance ne doit pas être comblée ou le poste pourvu tant que le délai accordé pour interjeter appel ne s'est pas écoulé ou qu'il ne soit statué définitivement sur l'appel. Si la déclaration de culpabilité est annulée, le siège ou le poste est réputé n'avoir jamais été vacant.

8. (1) En cas de vacance d'un siège ou d'un poste au sein d'un comité consultatif pour l'enfance en difficulté, le conseil qui a nommé la personne dont le siège ou le poste est devenu vacant en nomme une autre qui satisfait aux conditions requises pour occuper le siège ou poste vacant jusqu'à l'expiration du mandat de la personne dont le siège ou le poste est devenu vacant.

(2) Les exigences des articles 2, 3 et 4 en matière de mise en candidature s'appliquent aux nominations faites aux termes du présent article.

(3) Si le siège d'un membre du comité est vacant et que cette vacance n'a toujours pas été comblée, le membre suppléant, s'il y en a un, remplace le membre pour l'application du présent règlement.

9. (1) La majorité des membres d'un comité consultatif pour l'enfance en difficulté constitue le quorum. Le vote de la majorité des membres présents à une réunion est nécessaire pour engager le comité.

(2) Chaque membre présent à une réunion, ou son suppléant lorsqu'il assiste à la réunion à sa place, a droit à une voix.

(3) Lors de leur première réunion, les membres du comité élisent parmi eux un président et un vice-président.

(4) Le vice-président seconde le président et, en son absence, le remplace aux réunions.

(5) Le président ou, en son absence, le vice-président, dirige les réunions.

(6) If at any meeting the chair and vice-chair are not present, the members present may elect a chair for that meeting.

(7) The chair may vote with the other members of the committee and any motion on which there is an equality of votes is lost.

(8) The committee shall meet at least 10 times in each school year.

(9) Where a member for whom an alternate has been appointed cannot attend a meeting of the committee, the member shall so notify the alternate.

(10) Where an alternate receives a notice under subsection (9), he or she shall attend the meeting and act at the meeting in the member's place.

10. (1) The board shall make available to its special education advisory committee the personnel and facilities that the board considers necessary for the proper functioning of the committee, including the personnel and facilities that the board considers necessary to permit the use of electronic means for the holding of meetings of the committee in accordance with the regulations made under section 208.1 of the Act.

(2) Within a reasonable time after a special education advisory committee is appointed, the board shall provide the members of the committee and their alternates with information and orientation respecting,

- (a) the role of the committee and of the board in relation to special education; and
- (b) Ministry and board policies relating to special education.

11. (1) A special education advisory committee of a board may make recommendations to the board in respect of any matter affecting the establishment, development and delivery of special education programs and services for exceptional pupils of the board.

(2) Before making a decision on a recommendation of the committee, the board shall provide an opportunity for the committee to be heard before the board and before any other committee of the board to which the recommendation is referred.

12. (1) The board shall ensure that its special education advisory committee is provided with the opportunity to participate in the board's annual review, under Regulation 306 of the Revised Regulations of Ontario, 1990, of its special education plan.

(2) The board shall ensure that its special education advisory committee is provided with the opportunity to participate in the board's annual budget process under section 231 of the Act, as that process relates to special education.

(3) The board shall ensure that its special education advisory committee is provided with the opportunity to review the financial statements of the board, prepared under section 252 of the Act, as those statements relate to special education.

13. This Regulation comes into force on the day section 31 of the *Education Quality Improvement Act, 1997* comes into force.

(6) En cas d'absence du président et du vice-président à une réunion, les membres présents peuvent élire un président de séance pour cette réunion.

(7) Le président peut voter avec les autres membres du comité. En cas de partage des voix, la motion est rejetée.

(8) Le comité se réunit au moins 10 fois pendant l'année scolaire.

(9) Le membre pour lequel un suppléant a été nommé et qui ne peut assister à une réunion du comité en avise le suppléant.

(10) Le suppléant qui reçoit un avis aux termes du paragraphe (9) assiste à la réunion et y remplace le membre.

10. (1) Le conseil met à la disposition de son comité consultatif pour l'enfance en difficulté le personnel et les installations qu'il juge nécessaires au bon fonctionnement du comité, y compris le personnel et les installations qu'il juge nécessaires pour permettre l'emploi de moyens électroniques pour la tenue des réunions du comité conformément aux règlements pris en application de l'article 208.1 de la Loi.

(2) Le conseil donne aux membres d'un comité consultatif pour l'enfance en difficulté et à leurs suppléants, dans un délai raisonnable après la constitution du comité, des renseignements et l'orientation adoptée à l'égard de ce qui suit :

- a) les rôles respectifs du comité et du conseil en ce qui concerne l'enfance en difficulté;
- b) les politiques du ministère et du conseil en ce qui concerne l'enfance en difficulté.

11. (1) Le comité consultatif pour l'enfance en difficulté d'un conseil peut lui faire des recommandations sur toutes questions qui touchent la création, l'élaboration et la prestation de programmes d'enseignement et de services à l'enfance en difficulté à l'intention des élèves en difficulté du conseil.

(2) Avant de rendre une décision sur une recommandation du comité, le conseil donne au comité la possibilité d'être entendu par le conseil et par tout autre comité du conseil auquel la recommandation est soumise.

12. (1) Le conseil veille à ce que son comité consultatif pour l'enfance en difficulté ait la possibilité de participer à l'examen de son plan pour l'enfance en difficulté qu'il effectue chaque année aux termes du Règlement 306 des Règlements refondus de l'Ontario de 1990.

(2) Le conseil veille à ce que son comité consultatif pour l'enfance en difficulté ait la possibilité de participer à son processus budgétaire annuel aux termes de l'article 231 de la Loi, dans la mesure où ce processus a trait à l'enfance en difficulté.

(3) Le conseil veille à ce que son comité consultatif pour l'enfance en difficulté ait la possibilité d'examiner les états financiers qu'il a préparés aux termes de l'article 252 de la Loi, dans la mesure où ils ont trait à l'enfance en difficulté.

13. Le présent règlement entre en vigueur le jour où l'article 31 de la *Loi de 1997 sur l'amélioration de la qualité de l'éducation* entre en vigueur.

ONTARIO REGULATION 465/97made under the
EDUCATION ACT

Made: December 10, 1997

Filed: December 11, 1997

**REGULATION UNDER SECTION 46.1 OF THE ACT
(PRESCRIBED MUNICIPALITIES,
DEFENCE PROPERTY)**

1. The municipalities named in Column 1 are prescribed for the purposes of subsection 46.1 (2) of the *Education Act*.

2. The lands and premises with the assessment roll numbers set out in Column 2 are prescribed for the purposes of the definition of "defence property" in subsection 46.1 (1) of the Act.

| COLUMN 1 | COLUMN 2 |
|-------------------------------|--|
| Town of Petawawa | 47 79 078 015 44100 47 79 079 010 08400 |
| City of Kingston | 10 11 090 090 27100 10 11 090 090 27200 10 11 090 090 27300 10 11 090 090 27500 |
| City of Quinte West | 12 04 211 085 75100 12 04 211 085 75200 |
| City of Gloucester | 06 06 000 030 00121 |
| City of Ottawa | 06 14 010 402 59605 |
| Township of Essa | 43 21 010 012 00100 |
| Township of Adjala-Tosorontio | 43 01 020 007 20402 |
| City of North Bay | 48 44 050 076 50000 |
| City of Toronto | 19 08 031 580 00151 |

3. This Regulation comes into force on the day section 22 of the *Education Quality Improvement Act, 1997* comes into force.

52/97

ONTARIO REGULATION 466/97made under the
EDUCATION ACT

Made: December 10, 1997

Filed: December 11, 1997

**BORROWING FOR PERMANENT
IMPROVEMENTS:
ISSUANCE OF DEBENTURES**

1. A board that, under subsection 247 (1) or (2) of the Act, borrows money or incurs a debt for permanent improvements or issues debentures for the money borrowed or the debt incurred shall do so only in accordance with this Regulation.

2. (1) A board may pass a money by-law for the issuing of debentures.

(2) Subsections 140 (1) and (2) of the *Municipal Act* apply to the money by-law.

3. (1) A board may by by-law authorize,

RÈGLEMENT DE L'ONTARIO 466/97pris en application de la
LOI SUR L'ÉDUCATION

pris le 10 décembre 1997

déposé le 11 décembre 1997

**EMPRUNTS AUX FINS
D'AMÉLIORATIONS PERMANENTES :
ÉMISSION DE DÉBENTURES**

1. Le conseil qui, en vertu du paragraphe 247 (1) ou (2) de la Loi, contracte des emprunts ou des dettes pour couvrir le coût d'améliorations permanentes ou émet des débentures à l'égard de ces emprunts ou dettes ne le fait que conformément au présent règlement.

2. (1) Un conseil peut adopter un règlement administratif de finance autorisant l'émission de débentures.

(2) Les paragraphes 140 (1) et (2) de la *Loi sur les municipalités* s'appliquent au règlement administratif de finance.

3. (1) Un conseil peut, par règlement administratif, autoriser ce qui suit :

(a) the borrowing of money by the issuance of instalment debentures that comply with subsection (2); and

(b) the issuance of debentures to refund at maturity outstanding debentures of the board in accordance with subsection (3).

(2) The last instalment of an instalment debenture shall mature no earlier than five years after the date upon which the debenture was issued and the debenture shall specify the sum of principal payable under the debenture in the final year that the board shall raise by issuing refunding debentures under clause (1) (b).

(3) A refunding debenture mentioned in clause (1) (b) shall be payable within the maximum period of years that the board authorized by by-law for the repayment of the debt for which it issued debentures, commencing on the date it issued the original debentures.

(4) A by-law passed under subsection (1) shall provide that the sums of principal and interest payable on the debentures issued under the by-law shall be provided for in accordance with subsections 247 (5) and (6) of the Act.

4. (1) Subject to subsections (2) to (7), the following provisions of the *Municipal Act* apply to money by-laws passed and debentures issued under this Regulation:

1. Subsections 140 (5) to (10), (12), (13) and (15) to (18).

2. Subsections 141 (1), (2), (3), (5) to (8), (10) and (11).

3. Sections 142 and 143.

4. Subsections 144 (1), (2.1), (2.2) and (3) to (9).

5. Subsections 145 (1) and (3).

6. Subsection 150 (1).

7. Sections 151 and 152.

8. Sections 169, 170, 171, 172, 174 and 175.

9. Subsection 176 (2).

10. Section 177.

11. Sections 179, 180, 181.1 and 182.

12. Subsections 185 (1) and (2).

13. Sections 186 and 188.

(2) In the provisions mentioned in subsection (1),

(a) references to a council, corporation, municipality, municipal corporation or council of a city shall be deemed to be references to the board that issued the debentures; and

(b) references to the treasurer of a municipality shall be deemed to be references to the treasurer of the board that issued the debentures.

(3) In subsection 141 (5) of the *Municipal Act*, the reference to a retirement fund referred to in clause 141 (4) (b) of that Act shall be deemed to be a reference to the retirement fund mentioned in clause 5 (1) (b) of this Regulation.

(4) In subsection 144 (3) of the *Municipal Act*, the reference to clause 144 (2) (b) of that Act shall be deemed to be a reference to clause 6 (1) (b) of this Regulation.

a) l'emprunt de sommes d'argent par l'émission de débentures remboursables par versements qui soient conformes au paragraphe (2);

b) l'émission de débentures pour rembourser, à leur échéance, les débentures en circulation du conseil conformément au paragraphe (3).

(2) Le dernier versement de débentures remboursables par versements vient à échéance au plus tôt cinq ans après leur date d'émission. La somme que le conseil doit recueillir par l'émission de débentures de remboursement en vertu de l'alinéa (1) b) pour payer le capital des débentures remboursables par versements la dernière année est indiquée sur les débentures de remboursement.

(3) Les débentures de remboursement visées à l'alinéa (1) b) sont remboursables dans le nombre maximal d'années que le conseil a autorisé par règlement administratif pour rembourser la dette à l'égard de laquelle il a émis des débentures, à compter de la date d'émission des débentures initiales.

(4) Les règlements administratifs adoptés en vertu du paragraphe (1) prévoient l'affectation, conformément aux paragraphes 247 (5) et (6) de la Loi, des sommes nécessaires pour payer le capital et les intérêts exigibles sur les débentures aux termes de ces règlements.

4. (1) Sous réserve des paragraphes (2) à (7), les dispositions suivantes de la *Loi sur les municipalités* s'appliquent aux règlements administratifs de finance adoptés et aux débentures émises en vertu du présent règlement :

1. Les paragraphes 140 (5) à (10), (12), (13) et (15) à (18).

2. Les paragraphes 141 (1), (2), (3), (5) à (8), (10) et (11).

3. Les articles 142 et 143.

4. Les paragraphes 144 (1), (2.1), (2.2) et (3) à (9).

5. Les paragraphes 145 (1) et (3).

6. Le paragraphe 150 (1).

7. Les articles 151 et 152.

8. Les articles 169, 170, 171, 172, 174 et 175.

9. Le paragraphe 176 (2).

10. L'article 177.

11. Les articles 179, 180, 181.1 et 182.

12. Les paragraphes 185 (1) et (2).

13. Les articles 186 et 188.

(2) Dans les dispositions visées au paragraphe (1) :

a) les mentions d'un conseil, d'une municipalité ou du conseil d'une cité sont réputées des mentions du conseil scolaire qui a émis les débentures;

b) les mentions du trésorier d'une municipalité sont réputées des mentions du trésorier du conseil scolaire qui a émis les débentures.

(3) Au paragraphe 141 (5) de la *Loi sur les municipalités*, la mention du fonds de remboursement visé à l'alinéa 141 (4) b) de cette loi est réputée une mention du fonds de remboursement visé à l'alinéa 5 (1) b) du présent règlement.

(4) Au paragraphe 144 (3) de la *Loi sur les municipalités*, le renvoi à l'alinéa 144 (2) b) de cette loi est réputé un renvoi à l'alinéa 6 (1) b) du présent règlement.

(5) In subsection 144 (5) of the *Municipal Act*, the reference to section 167 of that Act shall be deemed to be a reference to section 241 of the *Education Act*.

(6) In subsections 144 (7) and (8) of the *Municipal Act*, references to the 31st day of December shall be deemed to be references to August 31.

(7) In subsection 176 (2) of the *Municipal Act*, the reference to subsection 176 (1) of that Act shall be deemed to be a reference to section 10 of this Regulation.

(8) In section 177 of the *Municipal Act*, the reference to levying the amount required to be raised for a sinking fund shall be deemed to be a reference to setting aside the amount required to be set aside for a sinking fund.

5. (1) A by-law passed with respect to extendible or retractable term debentures shall provide for the setting aside in each year of the currency of the debentures of,

- (a) an amount sufficient to pay the interest payable on the debentures in that year; and
- (b) a specified amount to form a retirement fund.

(2) The specified amount for the retirement fund shall be equal to or greater than the amount that would have been required to have been set aside and paid in each year in respect of the principal amount of the debentures if,

- (a) the principal had been payable in equal annual instalments; and
- (b) the board had issued the debentures for the maximum period that it authorized by by-law for the repayment of the debt for which it issued the debentures, commencing on the date of the debentures.

(3) A by-law mentioned in subsection (1) shall provide that the amounts payable under that subsection shall be set aside and paid in accordance with subsections 247 (5) and (6) of the Act.

6. (1) A money by-law for the issuing of sinking fund debentures shall provide for the setting aside in each year of the currency of the debentures of,

- (a) an amount sufficient to pay the interest payable on the debentures in that year; and
- (b) a specified amount for the sinking fund that, with interest at a rate not to exceed 8 per cent per annum compounded yearly, will be sufficient to pay the principal of the debentures at maturity.

(2) A by-law mentioned in subsection (1) shall provide that the amounts payable under that subsection shall be set aside and paid in accordance with subsections 247 (5) and (6) of the Act.

(3) The principal and interest payable under refinancing debentures issued under subsection 144 (2.1) of the *Municipal Act* shall be raised in accordance with subsections (1) and (2) of this section.

7. (1) A money by-law for the issuing of term debentures shall provide for,

- (a) the setting aside, in each year of the currency of the debentures, of an amount sufficient to pay the interest payable on the debentures; and

(5) Au paragraphe 144 (5) de la *Loi sur les municipalités*, le renvoi à l'article 167 de cette loi est réputé un renvoi à l'article 241 de la *Loi sur l'éducation*.

(6) Aux paragraphes 144 (7) et (8) de la *Loi sur les municipalités*, les mentions du 31 décembre sont réputées des mentions du 31 août.

(7) Au paragraphe 176 (2) de la *Loi sur les municipalités*, le renvoi au paragraphe 176 (1) de cette loi est réputé un renvoi à l'article 10 du présent règlement.

(8) À l'article 177 de la *Loi sur les municipalités*, la mention de l'imposition du montant devant être recueilli aux fins du fonds d'amortissement est réputée une mention de l'affectation de la somme à affecter au fonds d'amortissement.

5. (1) Les règlements administratifs adoptés à l'égard de débentures à échéance reportable ou de débentures encaissables par anticipation prévoient en l'affectation des sommes suivantes chaque année de la durée des débentures :

- a) une somme suffisante pour payer les intérêts exigibles sur les débentures dans l'année;
- b) une somme précisée pour constituer un fonds de remboursement.

(2) La somme précisée pour constituer le fonds de remboursement est égale ou supérieure à la somme qu'il aurait fallu affecter et verser chaque année à l'égard du capital des débentures si :

- a) d'une part, le capital avait été payable en versements annuels égaux;
- b) d'autre part, le conseil avait émis les débentures pour le nombre maximal d'années qu'il a autorisé par règlement administratif pour rembourser la dette à l'égard de laquelle il les a émises, à compter de la date que portent les débentures.

(3) Les règlements administratifs visés au paragraphe (1) prévoient que les sommes payables aux termes de ce paragraphe sont affectées et versées conformément aux paragraphes 247 (5) et (6) de la Loi.

6. (1) Les règlements administratifs de finance autorisant l'émission de débentures à fonds d'amortissement prévoient l'affectation des sommes suivantes chaque année de la durée des débentures :

- a) une somme suffisante pour payer les intérêts exigibles sur les débentures dans l'année;
- b) une somme précisée pour le fonds d'amortissement qui, majorée des intérêts calculés à un taux annuel maximal de 8 pour cent composé annuellement, est suffisante pour rembourser le capital des débentures à leur échéance.

(2) Les règlements administratifs visés au paragraphe (1) prévoient que les sommes payables aux termes de ce paragraphe sont affectées et versées conformément aux paragraphes 247 (5) et (6) de la Loi.

(3) La somme nécessaire pour payer le capital et les intérêts exigibles sur les débentures de remboursement émises aux termes du paragraphe 144 (2.1) de la *Loi sur les municipalités* est recueillie conformément aux paragraphes (1) et (2) du présent article.

7. (1) Les règlements administratifs de finance autorisant l'émission de débentures à terme prévoient ce qui suit :

- a) l'affectation, chaque année de la durée des débentures, d'une somme suffisante pour payer les intérêts exigibles sur celles-ci;

- (b) the setting aside, in each year of the currency of the debentures in which no other debentures issued under the same by-law become due and payable, of a specified amount to form a retirement fund for the debentures that, with interest at a rate not to exceed 8 per cent per annum compounded yearly, will be sufficient to pay the principal of the debentures at maturity.

(2) A by-law mentioned in subsection (1) shall provide that the amounts payable under that subsection shall be set aside and paid in accordance with subsections 247 (5) and (6) of the Act.

8. The repealing by-law mentioned in subsection 150 (1) of the *Municipal Act* shall recite the facts on which it is founded and shall be appointed to take effect on August 31 in the fiscal year of its passing.

9. (1) Subject to subsections (5) and (6), a board that receives money from the sale or hypothecation of debentures shall ensure that the money,

- (a) is kept in a separate account;
- (b) is used only for the purposes for which the board issued the debentures; and
- (c) is not applied towards payment of the current or other expenditures of the board.

(2) Despite subsection (1) and section 175 of the *Municipal Act*, a board that receives money from the sale of debentures that is not required immediately for the purpose or purposes for which the board issued the debentures may invest the money in the general fund of the board.

(3) The board shall ensure that,

- (a) the part of the money invested that is described in subsection (4) is returned to the debenture account no later than August 31 of the fiscal year in which the board invested the money; and
- (b) interest is credited to the debenture account on the money invested, at a rate equal to the rate currently applicable to the temporary borrowings of the board.

(4) The part of the money invested to which clause (3) (a) applies is the lesser of the whole of the money invested and the amount sufficient to pay,

- (a) the interest and principal payable on the debentures that become due and payable during the fiscal year following the fiscal year in which the board invested the money; and
- (b) the amounts required to be paid, during the fiscal year following the fiscal year in which the board invested the money, into a sinking fund or retirement fund established in respect of the debentures mentioned in clause (a).

(5) Subject to subsection (6), if the amount realized from the debentures is in excess of that required for the purpose or purposes for which the board issued the debentures, the board shall ensure that the excess amount is applied as follows:

1. If the amount is sufficient to redeem one or more debentures of the latest maturity, it shall be applied for that purpose if any of those debentures are redeemable.
2. If none of the debentures mentioned in paragraph 1 are redeemable or if the amount is not sufficient to redeem a debenture or if a balance remains after redemption as required by paragraph 1, the amount or the balance, as the case may be, shall be applied on the annual payments of principal and interest on the debentures until the amount or the balance, as the case may be, has all been so applied, and the amounts to be set aside and paid for that purpose shall be reduced accordingly.

- b) l'affectation, chaque année de la durée des débetures au cours de laquelle aucune autre débeture émise en vertu du même règlement administratif ne vient à échéance, d'une somme précisée pour constituer un fonds de remboursement des débetures qui, majorée des intérêts calculés à un taux annuel maximal de 8 pour cent composé annuellement, est suffisante pour rembourser le capital des débetures à leur échéance.

(2) Les règlements administratifs visés au paragraphe (1) prévoient que les sommes payables aux termes de ce paragraphe sont affectées et versées conformément aux paragraphes 247 (5) et (6) de la Loi.

8. Les règlements administratifs abrogatoires visés au paragraphe 150 (1) de la *Loi sur les municipalités* énoncent les faits sur lesquels ils se fondent et fixent leur entrée en vigueur au 31 août de l'exercice au cours duquel ils sont adoptés.

9. (1) Sous réserve des paragraphes (5) et (6), le conseil qui reçoit des sommes de la vente ou du nantissement de débetures fait en sorte que ces sommes :

- a) soient conservées dans un compte distinct;
- b) soient utilisées uniquement aux fins auxquelles le conseil a émis les débetures;
- c) ne soient pas affectées au paiement des dépenses, courantes ou autres, du conseil.

(2) Malgré le paragraphe (1) et l'article 175 de la *Loi sur les municipalités*, le conseil qui reçoit de la vente de débetures des sommes dont il n'a pas besoin immédiatement à une ou plusieurs fins auxquelles il a émis les débetures peut placer ces sommes dans son fonds d'administration générale.

(3) Le conseil fait en sorte :

- a) que la fraction des sommes placées visée au paragraphe (4) soit virée au compte des débetures au plus tard le 31 août de l'exercice au cours duquel il les a placées;
- b) que les intérêts sur les sommes placées soient portés au crédit du compte des débetures, au taux applicable à ce moment-là à ses emprunts à court terme.

(4) La fraction des sommes placées à laquelle s'applique l'alinéa (3) a) correspond au moindre de la totalité des sommes placées et de la somme suffisante pour payer ce qui suit :

- a) le capital et les intérêts exigibles sur les débetures qui viennent à échéance au cours de l'exercice qui suit celui au cours duquel le conseil a placé les sommes;
- b) les sommes qui doivent être versées, au cours de l'exercice qui suit celui au cours duquel le conseil a placé les sommes, dans un fonds d'amortissement ou un fonds de remboursement constitué à l'égard des débetures visées à l'alinéa a).

(5) Sous réserve du paragraphe (6), si le produit de la vente ou du nantissement de débetures est supérieur à la somme dont il a besoin à une ou plusieurs fins auxquelles il a émis les débetures, le conseil fait en sorte que l'excédent soit affecté comme suit :

1. Si l'excédent est suffisant pour racheter une ou plusieurs débetures dont l'échéance est la plus éloignée et que celles-ci sont rachetables, il est affecté à cette fin.
2. Si aucune des débetures visées à la disposition 1 n'est rachetable, que l'excédent n'est pas suffisant pour racheter une débeture ou qu'il y a un solde après le rachat exigé par la disposition 1, l'excédent ou le solde, selon le cas, est affecté aux versements annuels à effectuer au titre du capital et des intérêts des débetures jusqu'à épuisement de l'excédent ou du solde, selon le cas. Les sommes qui doivent être affectées et versées à cette fin sont alors réduites en conséquence.

(6) If the whole or any part of the amount realized from the sale or hypothecation of any debentures is not required for the purpose or purposes for which the debentures were issued, it may be applied to buy back the debentures or may be applied to meet the whole or a portion of any other capital expenditure of the board.

(7) If real or personal property acquired with all or part of the proceeds of the sale of debentures is sold while any part of the debentures remains outstanding, the net proceeds of the sale, to the extent of the amount of principal and interest then outstanding on the debentures, shall be applied in accordance with subsections (5) and (6).

10. The treasurer of a board in respect of which a sum is required by law to be set aside for a sinking fund shall prepare and lay before the board in every year, before the board adopts the estimates, a statement showing what amount will be required for that purpose.

11. If a deficit is sustained on the sale of all or part of an issuance of debentures of a board and all or part of the amount of the deficit is required for the purposes for which the board issued the debentures, the board shall ensure that,

- (a) the amount required is added to the sum to be raised in the first year for the payment of principal and interest on the debentures and the amount to be set aside in the first year is increased accordingly; or
- (b) the amount required is raised by the issuance of other debentures for the same or similar purpose.

12. (1) A board may by by-law borrow money for permanent improvements by way of a loan from a bank or trust company or a credit union within the meaning of the *Credit Unions and Caisses Populaires Act, 1994* with an initial maturity of more than one year.

(2) A board that obtains a loan mentioned in subsection (1) shall ensure that the proceeds of it are used for permanent improvements.

13. This Regulation comes into force on the later of January 1, 1998 and the day that subsection 113 (1) of the *Education Quality Improvement Act, 1997* comes into force.

(6) La totalité ou une partie du produit de la vente ou du nantissement de débetures qui n'est pas nécessaire à une ou plusieurs fins auxquelles elles ont été émises, peut être affectée au rachat des débetures ou au paiement total ou partiel d'autres dépenses en immobilisations du conseil.

(7) Si des biens meubles ou immeubles acquis avec tout ou partie du produit de la vente de débetures sont vendus et qu'une partie des débetures sont encore en circulation, le produit net de la vente est affecté conformément aux paragraphes (5) et (6) jusqu'à concurrence de la tranche du capital et des intérêts des débetures qui est alors impayée.

10. Le trésorier d'un conseil à l'égard duquel une somme doit être affectée aux termes de la loi à un fonds d'amortissement prépare et dépose chaque année devant le conseil, avant l'adoption des prévisions budgétaires, un état dans lequel il indique la somme qui sera nécessaire à cette fin.

11. Si la vente de tout ou partie d'une de ses émissions de débetures est déficitaire et qu'il a besoin de tout ou partie du montant du déficit aux fins auxquelles il a émis les débetures, le conseil fait en sorte :

- a) soit que la somme dont il a besoin soit ajoutée à la somme qu'il doit recueillir la première année pour payer le capital et les intérêts des débetures et que la somme à affecter la première année soit augmentée en conséquence;
- b) soit que la somme dont il a besoin soit recueillie par l'émission de nouvelles débetures à la même fin ou à une fin semblable.

12. (1) Un conseil peut, par règlement administratif, contracter auprès d'une banque, d'une société de fiducie ou d'une caisse au sens de la *Loi de 1994 sur les caisses populaires et les credit unions* un emprunt à plus d'un an pour couvrir le coût d'améliorations permanentes.

(2) Le conseil qui obtient l'emprunt visé au paragraphe (1) fait en sorte que le produit soit affecté à des améliorations permanentes.

13. Le présent règlement entre en vigueur le 1^{er} janvier 1998 ou, s'il lui est postérieur, le jour de l'entrée en vigueur du paragraphe 113 (1) de la *Loi de 1997 sur l'amélioration de la qualité de l'éducation*.

ONTARIO REGULATION 467/97 made under the EDUCATION ACT

Made: December 10, 1997
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DEEMED DISTRICT MUNICIPALITIES (SCHOOL AUTHORITY JURISDICTION)— TAX RATES

1. For the purpose of clause 257.12 (3) (a) of the Act, each of the following district school areas shall be deemed to be a district municipality, unless and until it becomes or is included in a municipality:

- 1. The Mine Centre District School Area.
- 2. The Summer Beaver District School Area.
- 3. The Kashabowie District School Area.
- 4. The Caramat District School Area.
- 5. The Collins District School Area.

6. The Kilkenny District School Area.
7. The Slate Falls District School Area.
8. The Sturgeon Lake District School Area.
9. The Upsala District School Area.
10. The Asquith-Garvey District School Area.
11. The Missarenda District School Area.
12. The Murchison, Lyell and Sabine District School Area.
13. The Umphreville District School Area.

2. For the purpose of clause 257.12 (3) (a) of the Act, each of the following former school sections shall be deemed to be a district municipality, unless and until it becomes or is included in a municipality:

1. The former school section known as The Allanwater District School Area.
2. The former school section known as The Armstrong District School Area.
3. The former school section known as The Auden District School Area.
4. The former school section known as The Ferland District School Area.
5. The former school section known as The Savant Lake District School Area.

3. For the purpose of clause 257.12 (3) (a) of the Act, each of the following areas shall be deemed to be a district municipality, unless and until it becomes or is included in a municipality:

1. All land within The Foleyet District School Area or the separate school zone of The Foleyet Roman Catholic Separate School Board.
2. All land within The Gogama District School Area or the separate school zone of The Gogama Roman Catholic Separate School Board.

4. For the purpose of clause 257.12 (3) (a) of the Act, the portion of The James Bay Lowlands Secondary School District that is not within the Moosonee Development Area shall be deemed to be a district municipality, unless and until it becomes or is included in a municipality.

5. For the purpose of clause 257.12 (3) (a) of the Act, the portions of the geographic townships of Baird and Heyson that are not within The Township of Red Lake in the Territorial District of Kenora shall be deemed to be a district municipality, unless and until they become or are included in a municipality.

6. This Regulation comes into force on the later of January 1, 1998 and the day section 31 of the *Education Quality Improvement Act, 1997* comes into force.

52/97

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**DEEMED DISTRICT MUNICIPALITIES (DISTRICT
SCHOOL BOARD JURISDICTION)—TAX RATES**

1. (1) Subject to subsection (2), for the purpose of clause 257.12 (3) (a) of the Act, each of the following that is not within a district municipality set out in O. Reg. 467/97 (*Deemed District Municipalities (School Authority Jurisdiction)—Tax Rates*) shall be deemed to be a district municipality, unless and until it becomes or is included in a municipality:

1. Every school section in existence on December 31, 1968 that comprised only territory without municipal organization, except a school section established under section 67 or 68.
2. Any part of territory without municipal organization that on December 31, 1968 was part of a high school district but was not in a school section.
3. Any part of territory without municipal organization that was designated by a regulation made under subsection 55 (1) of the Act, as it read on December 31, 1997, or a predecessor of that subsection, as a district municipality or that was added to a school division without being so designated and that on December 31, 1968 was not in a school section or in a high school district.

(2) For the purpose of clause 257.12 (3) (a) of the Act, if an area described in subsection (1) is partly within a separate school zone,

- (a) the portion of the area that is within the separate school zone shall be deemed to be a district municipality, unless and until it becomes or is included in a municipality; and
- (b) the portion of the area that is outside the separate school zone shall be deemed to be a district municipality, unless and until it becomes or is included in a municipality.

2. For the purpose of clause 257.12 (3) (a) of the Act, the geographic township of Dickens in the Territorial District of Nipissing and the portion of the geographic township of Murchison, in the Territorial District of Nipissing, that is not in The Murchison, Lyell and Sabine District School Area, shall be deemed to be a district municipality, unless and until they become or are included in a municipality.

3. This Regulation comes into force on the later of January 1, 1998 and the day section 32 of the *Education Quality Improvement Act, 1997* comes into force.

52/97

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DEBT AND FINANCIAL OBLIGATION LIMITS

1. The debt and financial obligation and liability limits for a district school board for the period January 1, 1998 to August 31, 1998 shall be determined under this Regulation using the formula described in section 3.

2. The limits, as updated under section 4, shall be used by a district school board to determine whether the approval of the Minister is required in respect of the following debt or financial obligations:

1. Long-term debt assumed by the board for which repayment will be required beyond the term for which the members of the board were elected.
2. Other financial commitments, liabilities and contractual obligations for which payment will be required beyond the term for which the members of the board were elected, including lease agreements.

3. The debt and financial obligation and liability limits shall be determined as follows:

1. Estimate the revenue fund expenditures of the board for the period January 1, 1998 to August 31, 1998.
2. Multiply the amount obtained in paragraph 1 by 10 per cent.
3. Subtract from the amount obtained in paragraph 2, 62 per cent of the sum of the annual payments in respect of the long-term debt and the other financial commitments liabilities and contractual obligations of the board described in paragraphs 1 and 2 of section 2.

4. (1) Before authorizing any specific work or class of work that would require the incurring of a long-term debt or financial obligation described in section 2, the district school board shall have its treasurer calculate updated limits using the most recent debt and financial obligation and liability limits as determined under section 3.

(2) The treasurer shall update the most recent debt and financial obligation and liability limits determined under section 3 as follows:

1. From the amount obtained in section 3, subtract 62 per cent of the estimated annual amount payable in respect of any project approved by the Minister or the board, as the case may be, to be financed by long-term debt or financial obligation described in section 2 but not as yet assumed, unless the board has by resolution indicated that it will not proceed with that project.

(3) The treasurer shall calculate 62 per cent of the estimated annual amount payable by the board in respect of the work.

(4) If the amount calculated under subsection (3) exceeds the amount updated under subsection (2), the board must obtain the approval of the Minister before authorizing the work.

5. Ontario Regulation 265/94 is revoked.

RÈGLEMENT DE L'ONTARIO 469/97
pris en application de la
LOI SUR L'ÉDUCATION

pris le 10 décembre 1997
déposé le 11 décembre 1997

**PLAFONDS DES DETTES ET DES
OBLIGATIONS FINANCIÈRES**

1. Les plafonds que peuvent atteindre les dettes, les obligations financières et les engagements d'un conseil scolaire de district pour la période comprise entre le 1^{er} janvier 1998 et le 31 août 1998 sont calculés aux termes du présent règlement au moyen de la formule prévue à l'article 3.

2. Le conseil scolaire de district se sert des plafonds, tels qu'ils sont mis à jour aux termes de l'article 4, pour déterminer si l'approbation du ministre est exigée à l'égard des dettes ou obligations financières suivantes :

1. Les dettes à long terme qu'il prend en charge et dont le remboursement se prolongera au-delà du mandat des membres du conseil.
2. Les autres engagements, financiers ou autres, et obligations contractuelles dont le paiement se prolongera au-delà du mandat des membres du conseil, y compris les conventions de bail.

3. Les plafonds des dettes, des obligations financières et des engagements se calculent comme suit :

1. Évaluer les dépenses courantes du conseil pour la période comprise entre le 1^{er} janvier 1998 et le 31 août 1998.
2. Multiplier la somme obtenue aux termes de la disposition 1 par 10 pour cent.
3. Du produit obtenu aux termes de la disposition 2, soustraire 62 pour cent du total des versements annuels à l'égard de la dette à long terme et des autres engagements, financiers ou autres, et obligations contractuelles du conseil visés aux dispositions 1 et 2 de l'article 2.

4. (1) Avant d'autoriser un travail particulier ou une catégorie de travaux qui l'obligerait à contracter une dette à long terme ou une obligation financière visée à l'article 2, le conseil scolaire de district demande à son trésorier de calculer les plafonds mis à jour en se servant des plafonds des dettes, des obligations financières et des engagements les plus récents, tels qu'ils sont calculés aux termes de l'article 3.

(2) Le trésorier met à jour les plafonds des dettes, des obligations financières et des engagements les plus récents calculés aux termes de l'article 3 comme suit :

1. De la somme obtenue aux termes de l'article 3, il soustrait 62 pour cent de la somme annuelle estimative qui sera exigible à l'égard de tout projet qu'approuve le ministre ou le conseil, selon le cas, et dont le financement proviendra des dettes à long terme ou d'obligations financières visées à l'article 2 mais non encore prises en charge, à moins que le conseil n'ait indiqué, par voie de résolution, qu'il ne donnera pas suite au projet.

(3) Le trésorier calcule 62 pour cent de la somme annuelle estimative que le conseil doit payer à l'égard du travail ou des travaux.

(4) Si la somme calculée aux termes du paragraphe (3) dépasse la somme mise à jour aux termes du paragraphe (2), le conseil doit obtenir l'approbation du ministre avant d'autoriser le travail ou les travaux.

5. Le Règlement de l'Ontario 265/94 est abrogé.

6. This Regulation comes into force on the later of January 1, 1998 and the day that section 113 of the *Education Quality Improvement Act, 1997* comes into force.

52/97

ONTARIO REGULATION 470/97
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**FINANCIAL STATEMENTS AND AUDITOR'S
REPORTS FOR OLD BOARDS**

1. (1) A district school board shall at its first meeting in 1998 or as soon as possible after the first meeting require its treasurer to prepare the financial statements for 1997 for each old board that was merged into the district school board by a regulation made under clause 58.1 (2) (h) of the Act.

(2) Instead of requiring its treasurer to prepare the financial statements mentioned in subsection (1), the district school board may require the person who was the treasurer of the old board to prepare the old board's financial statements if that person is an employee of the district school board.

(3) A person required to prepare financial statements under this section shall do so in accordance with the direction of the district school board and shall do so as soon as reasonably possible.

2. (1) A district school board shall obtain an auditor's report on the financial statements required to be prepared under section 1 as soon as reasonably possible after the financial statements have been prepared.

(2) Upon receipt of the auditor's report, the treasurer of the district school board shall promptly give the Ministry of Education and Training two copies of the auditor's report and two copies of the financial statements mentioned in subsection (1).

(3) Within one month after the district school board has received the auditor's report, the treasurer of the district school board shall,

(a) publish the financial statements to which the auditor's report relates, and the auditor's report, in a daily or weekly newspaper that, in the opinion of the treasurer, has sufficient circulation within the area of jurisdiction of the old board in respect of which the financial statements were prepared, to provide reasonable notice to those affected by them; or

(b) mail or deliver a copy of the financial statements and auditor's report to each of the old board's supporters.

(4) The financial statements and auditor's report published, mailed or delivered under subsection (3) shall be in the same form as financial statements and auditor's report prepared under subsection 252 (2) of the Act.

(5) For purposes of obtaining the auditor's report mentioned in subsection (1), the district school board shall retain the person who was the auditor of the old board to prepare the audit report on the financial statements of the old board, unless that is not reasonably possible and, if that person is retained, the district school board is subject to the same rights and obligations as the old board would have had the retainer of the auditor by the old board been continued.

3. This Regulation comes into force on the day that section 113 of the *Education Quality Improvement Act, 1997* comes into force.

52/97

6. Le présent règlement entre en vigueur le 1^{er} janvier 1998 ou, s'il lui est postérieur, le jour de l'entrée en vigueur de l'article 113 de la *Loi de 1997 sur l'amélioration de la qualité de l'éducation*.

RÈGLEMENT DE L'ONTARIO 470/97
pris en application de la
LOI SUR L'ÉDUCATION

pris le 10 décembre 1997
déposé le 11 décembre 1997

**ÉTATS FINANCIERS ET RAPPORTS DU
VÉRIFICATEUR DES ANCIENS CONSEILS**

1. (1) À la première réunion qu'il tient en 1998 ou le plus tôt possible par la suite, le conseil scolaire de district demande à son trésorier de préparer les états financiers pour 1997 de chaque ancien conseil qu'il a absorbé par fusion par règlement pris en application de l'alinéa 58.1 (2) h) de la Loi.

(2) Au lieu de demander à son trésorier de préparer les états financiers visés au paragraphe (1), le conseil scolaire de district peut demander à la personne qui était trésorier de l'ancien conseil de préparer les états financiers de ce conseil si elle est un employé du conseil scolaire de district.

(3) Toute personne tenue de préparer des états financiers aux termes du présent article le fait conformément aux directives du conseil scolaire de district dès que cela est raisonnablement possible.

2. (1) Le conseil scolaire de district obtient le rapport d'un vérificateur sur les états financiers qui doivent être préparés aux termes de l'article 1 dès que cela est raisonnablement possible après la préparation de ces états financiers.

(2) À la réception du rapport du vérificateur, le trésorier du conseil scolaire de district remet promptement deux copies du rapport du vérificateur et deux copies des états financiers visés au paragraphe (1) au ministère de l'Éducation et de la Formation.

(3) Dans le mois qui suit la réception du rapport du vérificateur par le conseil scolaire de district, le trésorier de celui-ci fait :

a) soit publier les états financiers visés par le rapport du vérificateur ainsi que le rapport du vérificateur dans un quotidien ou un hebdomadaire dont la diffusion dans le territoire de compétence de l'ancien conseil à l'égard duquel les états financiers ont été préparés est suffisante, selon lui, pour que les personnes visées en reçoivent un avis raisonnable;

b) soit envoyer par la poste ou remettre à chaque contribuable de l'ancien conseil une copie des états financiers et du rapport du vérificateur.

(4) Les états financiers et le rapport du vérificateur sont publiés, envoyés par la poste ou remis aux termes du paragraphe (3) sous la même forme que les états financiers et le rapport du vérificateur préparés aux termes du paragraphe 252 (2) de la Loi.

(5) Pour obtenir le rapport du vérificateur visé au paragraphe (1), le conseil scolaire de district retient les services de la personne qui était le vérificateur de l'ancien conseil pour qu'elle prépare le rapport de vérification sur les états financiers de l'ancien conseil à moins que cela ne soit pas raisonnablement possible. S'il retient les services de cette personne, le conseil scolaire de district a les mêmes droits et obligations que l'ancien conseil aurait eus s'il avait continué de retenir les services du vérificateur.

3. Le présent règlement entre en vigueur le jour où l'article 113 de la *Loi de 1997 sur l'amélioration de la qualité de l'éducation* entre en vigueur.

ONTARIO REGULATION 471/97

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ELIGIBLE INVESTMENTS

1. A board does not have the power under section 241 of the Act to invest in a security other than a security prescribed under this Regulation.

2. The following are prescribed as securities that a board may invest in:

1. Bonds, debentures, promissory notes or other evidence of indebtedness issued or guaranteed by,
 - i. Canada or a province or territory of Canada,
 - ii. an agency of Canada or a province or territory of Canada,
 - iii. a municipality in Canada,
 - iv. a board or similar entity in Canada,
 - v. the Municipal Finance Authority of British Columbia.
2. Bonds, debentures, promissory notes or other evidence of indebtedness of a corporation if,
 - i. the bond, debenture or other evidence of indebtedness is secured by the assignment to a trustee, as defined in the *Trustee Act*, of payments that Canada or a province or territory of Canada has agreed to make or is required to make under a federal, provincial or territorial statute, and
 - ii. the payments referred to in subparagraph i are sufficient to meet the amounts payable under the bond, debenture or other evidence of indebtedness, including the amounts payable at maturity.
3. Deposit receipts, deposit notes, certificates of deposit or investment, acceptances or similar instruments issued, guaranteed or endorsed by,
 - i. a bank listed in Schedule I or II to the *Bank Act* (Canada),
 - ii. a loan corporation or trust corporation registered under the *Loan and Trust Corporations Act*,
 - iii. a credit union or league to which the *Credit Unions and Caisses Populaires Act, 1994* applies, or
 - iv. the Province of Ontario Savings Office.
4. Bonds, debentures or evidences of long-term indebtedness issued or guaranteed by an institution listed in paragraph 3.
5. Short term securities, the terms of which provide that the principal and interest shall be fully repaid no later than three days after the day the investment was made, that are issued by,
 - i. the board of governors of a college of applied arts and technology established under section 5 of the *Ministry of Colleges and Universities Act*,

RÈGLEMENT DE L'ONTARIO 471/97

pris en application de la
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PLACEMENTS ADMISSIBLES

1. Un conseil n'a pas, en vertu de l'article 241 de la Loi, le pouvoir de placer des sommes dans d'autres valeurs mobilières que celles qui sont prescrites aux termes du présent règlement.

2. Les valeurs mobilières prescrites dans lesquelles le conseil peut placer des sommes sont les suivantes :

1. Les obligations, débentures, billets à ordre ou autres titres de créance émis ou garantis par :
 - i. le gouvernement du Canada ou celui d'une province ou d'un territoire du Canada,
 - ii. un organisme du gouvernement du Canada ou de celui d'une province ou d'un territoire du Canada,
 - iii. une municipalité située au Canada,
 - iv. un conseil ou une entité similaire situé au Canada,
 - v. le Municipal Finance Authority of British Columbia.
2. Les obligations, débentures, billets à ordre ou autres titres de créance d'une personne morale, si :
 - i. d'une part, les obligations, débentures ou autres titres de créance sont garantis par la cession à un fiduciaire, au sens de la *Loi sur les fiduciaires*, des versements que le gouvernement du Canada ou celui d'une province ou d'un territoire du Canada a convenu de faire ou est tenu de faire aux termes d'une loi fédérale, provinciale ou territoriale,
 - ii. d'autre part, les versements visés à la sous-disposition i sont suffisants pour couvrir les sommes exigibles aux termes des obligations, débentures ou autres titres de créance, y compris les sommes exigibles à leur échéance.
3. Les récépissés de dépôt, billets de dépôt, certificats de dépôt ou de placement, acceptations ou instruments semblables qui sont émis, garantis ou endossés par :
 - i. une banque mentionnée à l'annexe I ou II de la *Loi sur les banques* (Canada),
 - ii. une société de prêt ou de fiducie inscrite aux termes de la *Loi sur les sociétés de prêt et de fiducie*,
 - iii. une caisse ou une fédération à laquelle s'applique la *Loi de 1994 sur les caisses populaires et les credit unions*,
 - iv. la Caisse d'épargne de l'Ontario.
4. Les obligations, débentures ou titres de créance à long terme qui sont émis ou garantis par un établissement mentionné à la disposition 3.
5. Les valeurs mobilières à court terme dont les conditions précisent que le capital et les intérêts doivent être intégralement remboursés au plus tard trois jours après le jour où le placement a été effectué et qui sont émises par l'un ou l'autre des organismes suivants :
 - i. le conseil d'administration d'un collège d'arts appliqués et de technologie ouvert en vertu de l'article 5 de la *Loi sur le ministère des Collèges et Universités*,

ii. a degree granting institution as authorized under section 3 of the *Degree Granting Act*, or

iii. a board as defined in the *Public Hospitals Act*.

3. (1) A board shall not invest in a security under paragraph 4 of section 2 unless the bond, debenture, promissory note or evidence of indebtedness is rated,

- (a) by Canadian Bond Rating Service Inc. as "AA -" or higher;
- (b) by Dominion Bond Rating Service Limited as "AA(low)" or higher;
- (c) by Moody's Investors Services Inc. as "Aa3" or higher; or
- (d) by Standard and Poor's Inc. as "AA -" or higher.

(2) If an investment made under paragraph 4 of section 2 falls below the standard required under subsection (1), the board shall sell the investment within 90 days after the day the investment falls below the standard.

4. A board shall not invest in a security issued or guaranteed by a board or similar entity unless,

- (a) the money raised by issuing the security is to be used for school purposes; and
- (b) the security is to be repaid entirely from the taxes or charges levied on property, with grants or appropriations made by the government of Canada or a province or territory of Canada or a municipality, or from a combination of such taxes, charges, grants and appropriations.

5. (1) A board shall not invest in a security that is expressed or payable in any currency other than Canadian dollars.

(2) Subsection (1) does not prevent a board from continuing an investment, made before this Regulation comes into force, that is expressed and payable in the currency of the United States of America or the United Kingdom.

6. Before a board invests in a security prescribed under this Regulation, the board shall, if it has not already done so, adopt a statement of the board's investment policies and goals.

7. (1) If a board has an investment in a security prescribed under this Regulation, the board shall require the treasurer of the board to prepare and provide to the board, each year or more frequently if so required by the board, an investment report.

(2) The investment report referred to in subsection (1) shall contain,

- (a) a statement about the performance of the portfolio of investments of the board during the period covered by the report;
- (b) a description of the estimated proportion of the total investments of a board that are invested in its own long-term and short-term securities to the total investment of the board and a description of the change, if any, in that estimated proportion since the previous year's report;

ii. un établissement qui attribue des grades universitaires en vertu de l'autorisation visée à l'article 3 de la *Loi sur l'attribution de grades universitaires*,

iii. un conseil au sens de la *Loi sur les hôpitaux publics*.

3. (1) Le conseil ne doit pas placer de sommes dans une valeur mobilière visée à la disposition 4 de l'article 2 à moins que l'obligation, la débeture, le billet à ordre ou le titre de créance n'ait reçu l'une ou l'autre des cotes suivantes :

- a) la cote «AA -» ou une cote supérieure, de la Société canadienne d'évaluation du crédit;
- b) la cote «AA (low)» ou une cote supérieure, du Dominion Bond Rating Service Limited;
- c) la cote «Aa3» ou une cote supérieure, de Moody's Investors Services Inc.;
- d) la cote «AA -» ou une cote supérieure, de Standard and Poor's Inc.

(2) Si le placement effectué en vertu de la disposition 4 de l'article 2 ne respecte plus la norme exigée par le paragraphe (1), le conseil vend le placement dans les 90 jours qui suivent le jour où le placement ne respecte plus cette norme.

4. Le conseil ne doit pas placer de sommes dans une valeur mobilière émise ou garantie par un conseil ou une entité similaire à moins que les conditions suivantes ne soient réunies :

- a) les sommes recueillies par l'émission de la valeur mobilière doivent être affectées aux fins scolaires;
- b) la valeur mobilière doit être remboursée intégralement au moyen des impôts, droits ou redevances prélevés sur des biens, de subventions ou affectations de crédits reçues du gouvernement du Canada, de celui d'une province ou d'un territoire du Canada ou d'une municipalité, ou d'une combinaison de tels impôts, droits, redevances, subventions et affectations.

5. (1) Le conseil ne doit pas placer de sommes dans une valeur mobilière libellée ou remboursable dans une autre devise que le dollar canadien.

(2) Le paragraphe (1) n'a pas pour effet d'empêcher le conseil de conserver un placement effectué avant l'entrée en vigueur du présent règlement qui est libellé et remboursable en devises des États-Unis d'Amérique ou du Royaume-Uni.

6. Avant de placer des sommes dans une valeur mobilière prescrite aux termes du présent règlement, le conseil adopte, si cela n'est pas déjà fait, une déclaration sur les politiques et objectifs du conseil en matière de placements.

7. (1) S'il a placé des sommes dans une valeur mobilière prescrite aux termes du présent règlement, le conseil demande à son trésorier de préparer un rapport sur les placements et de le lui remettre tous les ans ou à intervalles plus fréquents à sa demande.

(2) Le rapport sur les placements visé au paragraphe (1) comprend ce qui suit :

- a) un état sur le rendement du portefeuille de placements du conseil pendant la période visée par le rapport;
- b) une estimation du rapport qui existe entre l'ensemble des placements du conseil qui portent sur ses propres valeurs mobilières à long terme et à court terme et la valeur totale de ses placements, de même qu'une description de tout changement survenu, le cas échéant, dans cette estimation depuis la préparation du rapport de l'année précédente;

- (c) a statement by the treasurer as to whether or not, in his or her opinion, all investments were made in accordance with the investment policies and goals adopted by the board;
- (d) a record of the date of each transaction in or disposal of its own securities, including a statement of the purchase and sale price of each security; and
- (e) such other information that the board may require or that, in the opinion of the treasurer, should be included.

8. (1) Despite this Regulation, an investment by an old board or a school authority in bonds, debentures or other indebtedness of a corporation made before the day this Regulation comes into force may be continued if the bond, debenture or other indebtedness is rated,

- (a) by Canadian Bond Rating Service Inc. as "AA -" or higher;
- (b) by Dominion Bond Rating Service Limited as "AA(low)" or higher;
- (c) by Moody's Investors Services Inc. as "Aa3" or higher; or
- (d) by Standard and Poor's Inc. as "AA -" or higher.

(2) If the rating of an investment continued under subsection (1) falls below the standard required by that subsection, the board shall sell the investment within 90 days after the day the investment falls below the standard.

9. This Regulation comes into force on the day that section 113 of the *Education Quality Improvement Act, 1997* comes into force.

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- c) une déclaration du trésorier portant que, selon lui, tous les placements ont été ou non effectués conformément aux politiques et objectifs du conseil en matière de placements;
- d) un relevé de la date de chaque opération portant sur les valeurs mobilières émises par le conseil et de chaque aliénation de telles valeurs, y compris un relevé du prix d'achat et du prix de vente de chacune d'elles;
- e) tout autre renseignement qu'exige le conseil ou qui devrait être inclus de l'avis du trésorier.

8. (1) Malgré le présent règlement, le placement qu'un ancien conseil ou une administration scolaire a effectué dans une obligation, une débeture ou un autre titre de créance d'une personne morale avant le jour de l'entrée en vigueur du présent règlement peut être conservé si l'obligation, la débeture ou l'autre titre de créance a reçu l'une ou l'autre des cotes suivantes :

- a) la cote «AA -» ou une cote supérieure, de la Société canadienne d'évaluation du crédit;
- b) la cote «AA (low)» ou une cote supérieure, du Dominion Bond Rating Service Limited;
- c) la cote «Aa3» ou une cote supérieure, de Moody's Investors Services Inc.;
- d) la cote «AA -» ou une cote supérieure, de Standard and Poor's Inc.

(2) Si la cote du placement conservé en vertu du paragraphe (1) ne respecte plus la norme exigée par ce paragraphe, le conseil vend le placement dans les 90 jours qui suivent le jour où le placement ne respecte plus cette norme.

9. Le présent règlement entre en vigueur le jour où l'article 113 de la *Loi de 1997 sur l'amélioration de la qualité de l'éducation* entre en vigueur.

ONTARIO REGULATION 472/97
made under the
EDUCATION ACT

Made: December 10, 1997
Filed: December 11, 1997

**PRINCIPALS AND VICE-PRINCIPALS
OF SCHOOL AUTHORITIES**

1. Each of the following provisions apply, as of the day the provision comes into force, to principals and vice-principals who are employed by a school authority both on December 31, 1997 and January 1, 1998:

- 1. Subsections 277.11 (2) to (5) of the Act.
- 2. Subsection 287.2 (2) of the Act.
- 3. Subsection 287.2 (3) of the Act.
- 2. This Regulation comes into force on January 1, 1998.
- 3. This Regulation is revoked on September 1, 2000.

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RÈGLEMENT DE L'ONTARIO 472/97
pris en application de la
LOI SUR L'ÉDUCATION

pris le 10 décembre 1997
déposé le 11 décembre 1997

**DIRECTEURS D'ÉCOLE ET DIRECTEURS
ADJOINTS DES ADMINISTRATIONS SCOLAIRES**

1. Chacune des dispositions suivantes s'applique, à partir du jour de son entrée en vigueur, aux directeurs d'école et aux directeurs adjoints qui sont employés par une administration scolaire et le 31 décembre 1997 et le 1^{er} janvier 1998 :

- 1. Les paragraphes 277.11 (2) à (5) de la Loi.
- 2. Le paragraphe 287.2 (2) de la Loi.
- 3. Le paragraphe 287.2 (3) de la Loi.
- 2. Le présent règlement entre en vigueur le 1^{er} janvier 1998.
- 3. Le présent règlement est abrogé le 1^{er} septembre 2000.

ONTARIO REGULATION 473/97
made under the
EDUCATION ACT

Made: December 10, 1997
Filed: December 11, 1997

Amending Reg. 295 of R.R.O. 1990
(Northern District School Area Board)

Note: Since January 1, 1997, Regulation 295 has been amended by Ontario Regulations 186/97 and 395/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. The definition of "residential property" in section 1 of Regulation 295 of the Revised Regulations of Ontario, 1990 is revoked.

2. This Regulation comes into force on January 1, 1998.

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ONTARIO REGULATION 474/97
made under the
EDUCATION ACT

Made: December 10, 1997
Filed: December 11, 1997

Amending Reg. 294 of R.R.O. 1990
(James Bay Lowlands Secondary School Board)

Note: Regulation 294 has been amended by Ontario Regulation 394/97.

1. (1) The definition of "equalized assessment" in section 1 of Regulation 294 of the Revised Regulations of Ontario, 1990 is revoked.

(2) The definition of "residential property" in section 1 of the Regulation is revoked.

2. Section 7 of the Regulation is revoked.

3. This Regulation comes into force on January 1, 1998.

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ONTARIO REGULATION 475/97
made under the
DEVELOPMENT CHARGES ACT

Made: December 10, 1997
Filed: December 11, 1997

Amending Reg. 268 of R.R.O. 1990
(Education Development Charges)

Note: Regulation 268 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. The definitions of "construction cost", "cost of site purchase", "elementary rate of grant", "local share", "project", "secondary

rate of grant" and "treasurer" as set out in section 1 of Regulation 268 of the Revised Regulations of Ontario, 1990 are revoked and the following substituted:

"construction cost" means the construction cost of providing pupil accommodation, approved by the Minister of Education and Training, for the purposes of payment of a legislative grant under section 234 of the *Education Act*;

"cost of site purchase", in respect of a site acquired or proposed to be acquired by a board for the purpose of a project that provides pupil accommodation, means the cost approved by the Minister of Education and Training for the purposes of payment of a legislative grant under section 234 of the *Education Act*;

"elementary rate of grant" means the percentage of the construction cost of an elementary school project or of the cost of site purchase of an elementary school project that may be financed by a legislative grant under section 234 of the *Education Act*;

"local share" means the portion of the cost of a project approved by the Minister of Education and Training for the purposes of payment of a legislative grant under section 234 of the *Education Act* that may be financed by money collected under an education development charge;

"project" means a plan for school facilities that represents an education capital cost and that is approved by the Minister of Education and Training;

"secondary rate of grant" means the percentage of the construction cost of a secondary school project or of the cost of site purchase of a secondary school project that may be financed by a legislative grant under section 234 of the *Education Act*;

"treasurer" means the treasurer of a board.

2. The heading immediately before section 2 of the Regulation is revoked and the following substituted:

CONDITIONS TO THE PASSAGE OF BY-LAW

3. Section 2 of the Regulation is revoked and the following substituted:

2. (1) A board shall not pass an education development charge by-law unless the following conditions are met:

1. The Minister of Education and Training has approved the board's estimates of the projected elementary enrolment and secondary enrolment for each year of the term of the proposed education development charge by-law and, in at least one year, the projected elementary enrolment exceeds the elementary pupil place capacity or the projected secondary enrolment exceeds the secondary pupil place capacity.

2. Every board that has territorial jurisdiction in the area in which the proposed education development charge by-law is to apply has approved in writing the board's elementary yield factors and secondary yield factors or, in the absence of those approvals, the Minister of Education and Training has approved the board's elementary yield factors and secondary yield factors.

3. The Minister of Education and Training has approved the board's estimates of the number of growth-related new elementary school pupils and growth-related new secondary school pupils.
4. The Minister of Education and Training has approved the number of elementary school projects and the number of secondary school projects that the board proposes to use to provide accommodation for the estimated growth-related new elementary school pupils and the estimated growth-related new secondary school pupils.
5. The board can document its efforts to make long-term lease arrangements or other arrangements with other boards, municipalities or the private sector to accommodate the estimated growth-related new elementary school pupils and growth-related new secondary school pupils, and the results of those efforts.

(2) In subsection (1),

"elementary enrolment" means the enrolment as determined by the Minister of Education and Training for the purpose of the calculation of legislative grants under section 234 of the *Education Act* for new elementary pupil places;

"elementary pupil place capacity" means the number of pupil places counted by the Minister of Education and Training for the purpose of the calculation of legislative grants under section 234 of the *Education Act* for new elementary pupil places;

"secondary enrolment" means the enrolment as determined by the Minister of Education and Training for the purpose of the calculation of legislative grants under section 234 of the *Education Act* for new secondary pupil places;

"secondary pupil place capacity" means the number of pupil places counted by the Minister of Education and Training for the purpose of the calculation of legislative grants under section 234 of the *Education Act* for new secondary pupil places.

4. Subsection 5 (7) of the Regulation is amended by striking out "Minister of Education for the purposes of payment of a legislative grant under subsection 11 (3)" in the first and second lines and substituting "Minister of Education and Training for the purposes of payment of a legislative grant under section 234".

5. Section 6 of the Regulation is revoked and the following substituted:

6. (1) Money may be withdrawn from an education development charges account for the purpose of making investments permitted under clause 241 (1) (a) of the *Education Act*.

(2) During the year that begins on the day section 241 of the *Education Act* comes into force and ends on the first anniversary of that day, subsection (1) as it read on December 31, 1997, continues to apply

to investments made before the day that section 241 of the *Education Act* comes into force.

(3) An investment to which subsection (2) applies shall not be continued past the end of the year mentioned in subsection (2) unless the investment is in a security or class of securities that is prescribed under clause 241 (6) (b) of the *Education Act*.

(4) Money held in a joint education development charges account may only be withdrawn under subsection (1) or (2) if the investments made are held jointly by the boards in whose name the account is held.

6. Section 7 of the Regulation is amended by striking out "Minister of Education" in the second and third lines in the portion before clause 7 (a) and substituting "Minister of Education and Training".

7. The Regulation is further amended by adding the following heading and section:

INDUSTRIAL DEVELOPMENT EXEMPTION

9.2 (1) If a development includes the enlargement of the gross floor area of an existing industrial building, the amount of the education development charge that is payable under an education development charge by-law passed on or after January 1, 1998 is determined in accordance with this section.

(2) If the gross floor area is enlarged by 50 per cent or less, the amount of the education development charge in respect of the enlargement is zero.

(3) If the gross floor area is enlarged by more than 50 per cent, the amount of the education development charge in respect of the enlargement is the amount of the education development charge that would otherwise be payable multiplied by the fraction determined as follows:

1. Determine the amount by which the enlargement exceeds 50 per cent of the gross floor area before the enlargement.
2. Divide the amount determined under paragraph 1 by the amount of the enlargement.

(4) In this section,

"existing industrial building" means an existing industrial building assessed as manufacturing and industrial for municipal taxation purposes;

"gross floor area" means the total floor area, measured between the outside of exterior walls or between the outside of exterior walls and the centre line of party walls dividing the building from another building, of all floors above the average level of finished ground adjoining the building at its exterior walls.

8. This Regulation comes into force on January 1, 1998.

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ONTARIO REGULATION 476/97
made under the
MENTAL HEALTH ACT

Made: December 10, 1997
Filed: December 12, 1997

Amending Reg. 741 of R.R.O. 1990
(General)

Note: Regulation 741 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Schedule 1 to Regulation 741 of the Revised Regulations of Ontario, 1990 is amended by adding the following item:

01. Ajax Ajax and Pickering General Hospital

(2) Item 73 of Schedule 1 to the Regulation is revoked and the following substituted:

73. Toronto The Wellesley Central Hospital

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RÈGLEMENT DE L'ONTARIO 476/97
pris en application de la
LOI SUR LA SANTÉ MENTALE

pris le 10 décembre 1997
déposé le 12 décembre 1997

modifiant le Règl. 741 des R.R.O. de 1990
(Dispositions générales)

Remarque : Le Règlement 741 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. (1) L'annexe 1 du Règlement 741 des Règlements refondus de l'Ontario de 1990 est modifiée par adjonction du point suivant :

01. Ajax Hôpital général d'Ajao et de Pickering

(2) Le point 73 de l'annexe 1 du Règlement est abrogé et remplacé par ce qui suit :

73. Toronto Hôpital central Wellesley

ONTARIO REGULATION 477/97
made under the
PRIVATE HOSPITALS ACT

Made: December 10, 1997
Filed: December 12, 1997

Amending Reg. 937 of R.R.O. 1990
(General)

Note: Regulation 937 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 22 of Regulation 937 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

22. (1) Every licence held under the Act shall be held for a one-year term that begins on April 1 of every year and ends on March 31 of the following year.

(2) Despite subsection (1), every licence that is renewed under the Act effective as of January 1, 1997 shall expire on March 31, 1998 and be renewed on April 1, 1998 for a term of one year.

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RÈGLEMENT DE L'ONTARIO 477/97
pris en application de la
LOI SUR LES HÔPITAUX PRIVÉS

pris le 10 décembre 1997
déposé le 12 décembre 1997

modifiant le Règl. 937 des R.R.O. de 1990
(Dispositions générales)

Remarque : Le Règlement 937 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. L'article 22 du Règlement 937 des Règlements refondus de l'Ontario de 1990 est abrogé et remplacé par ce qui suit :

22. (1) Tout permis détenu aux termes de la Loi l'est pour une période d'un an commençant le 1^{er} avril de chaque année et se terminant le 31 mars de l'année suivante.

(2) Malgré le paragraphe (1), tout permis qui est renouvelé aux termes de la Loi à compter du 1^{er} janvier 1997 expire le 31 mars 1998 et est renouvelé le 1^{er} avril 1998 pour une période d'un an.

ONTARIO REGULATION 478/97
made under the
**FREEDOM OF INFORMATION AND
PROTECTION OF PRIVACY ACT**

Made: December 10, 1997
Filed: December 12, 1997

Amending Reg. 460 of R.R.O. 1990
(General)

RÈGLEMENT DE L'ONTARIO 478/97
pris en application de la
**LOI SUR L'ACCÈS À L'INFORMATION ET LA
PROTECTION DE LA VIE PRIVÉE**

pris le 10 décembre 1997
déposé le 12 décembre 1997

modifiant le Règl. 460 des R.R.O. de 1990
(Dispositions générales)

Note: Since January 1, 1997, Regulation 460 has been amended by Ontario Regulation 26/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

Remarque : Depuis le 1^{er} janvier 1997, le Règlement 460 a été modifié par le Règlement de l'Ontario 26/97. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. The Schedule to Regulation 460 of the Revised Regulations of Ontario, 1990 is amended by striking out items 1, 42, 43.1, 51, 66, 90, 121.01, 122, 126.1, 127, 137, 137.1, 190, 212, 215 and 237 and adding the following items:

1. L'annexe du Règlement 460 des Règlements refondus de l'Ontario de 1990 est modifiée par suppression des numéros 1, 42, 43.1, 51, 66, 90, 121.01, 122, 126.1, 127, 137, 137.1, 190, 212, 215 et 237 et par adjonction des numéros suivants :

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| 16. | Agricorp | Chair of the Board |
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| 60.1 | Education Improvement Commission | Minister of Education and Training |
| 60.2 | Education Quality and Accountability Office | Chair |

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| 181. | Ontario Review Board | Chair of the Board |
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| 190. | Ontario VL Corporation Ltd. | President |
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| 16. | Agricorp | Président du conseil d'administration |
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| 60.1 | Commission d'amélioration de l'éducation | Ministre de l'Éducation et de la Formation |
| 60.2 | Office de la qualité et de la responsabilité en éducation | Président du conseil d'administration |

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| 181. | Commission ontarienne d'examen | Président de la Commission |
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| 190. | Ontario VL Corporation Ltd. | Président |
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2. Form 2 of the Regulation is amended by inserting the following sentence at the top of the Form:

There is a fee of \$5.00 to file an access request.

2. La formule 2 du Règlement est modifiée par insertion de la phrase suivante au haut de la formule :

Des droits de 5,00 \$ sont exigés pour le dépôt d'une demande d'accès.

ONTARIO REGULATION 479/97
made under the
**MUNICIPAL FREEDOM OF INFORMATION AND
PROTECTION OF PRIVACY ACT**

Made: December 10, 1997
Filed: December 12, 1997

Amending O. Reg. 372/91
(Institutions)

Note: Ontario Regulation 372/91 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 1 of Ontario Regulation 372/91 is amended by adding the following paragraphs:

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| 2.1 | Each board established for transitional purposes under section 5.2 of Ontario Regulation 143/96. |
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| 4.1 | Financial advisory board created by section 13 of the <i>City of Toronto Act, 1997</i> . |
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| 13. | Transition team created by section 18 of the <i>City of Toronto Act, 1997</i> . |
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ONTARIO REGULATION 480/97
made under the
**MUNICIPAL FREEDOM OF INFORMATION AND
PROTECTION OF PRIVACY ACT**

Made: December 10, 1997
Filed: December 12, 1997

Amending Reg. 823 of R.R.O. 1990
(General)

Note: Regulation 823 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Form 2 of Regulation 823 of the Revised Regulations of Ontario, 1990 is amended by inserting the following sentence at the top of the form:

There is a fee of \$5.00 to file an access request.

RÈGLEMENT DE L'ONTARIO 480/97
pris en application de la
**LOI SUR L'ACCÈS À L'INFORMATION MUNICIPALE ET
LA PROTECTION DE LA VIE PRIVÉE**

pris le 10 décembre 1997
déposé le 12 décembre 1997

modifiant le Règl. 823 des R.R.O. de 1990
(Dispositions générales)

Remarque : Le Règlement 823 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. La formule 2 du Règlement 823 des Règlements refondus de l'Ontario de 1990 est modifiée par insertion de la phrase suivante au haut de la formule :

Des droits de 5,00 \$ sont exigés pour le dépôt d'une demande d'accès.

52/97

ONTARIO REGULATION 481/97
made under the
TORONTO AREA TRANSIT OPERATING
AUTHORITY ACT

Made: December 10, 1997

Filed: December 12, 1997

RECOVERY OF COSTS OF THE TORONTO AREA
TRANSIT OPERATION AUTHORITY

1. (1) For the purpose of subsection 8 (1) of the Act, a billing period shall be one calendar month.

(2) Despite subsection (1), the first billing period shall be January 1 to March 31, 1998.

2. (1) For the purpose of clause 8 (1) (a) of the Act, the amount of the Authority's costs for each billing period in 1998 shall be a percentage of the Authority's total subsidy requirement, as set out in the 1998 Budget for the Toronto Area Transit Operating Authority as follows:

1. For the first billing period, 23.9 per cent.
2. For April, 1998, 8.8 per cent.
3. For May, 1998, 9.5 per cent.
4. For June, 1998, 10.5 per cent.
5. For July, 1998, 7.9 per cent.
6. For August, 1998, 6.7 per cent.
7. For September, 1998, 8.4 per cent.
8. For October, 1998, 9.5 per cent.
9. For November, 1998, 6.1 per cent.

ONTARIO REGULATION 482/97
made under the
DAY NURSERIES ACT

Made: December 10, 1997

Filed: December 12, 1997

Amending Reg. 262 of R.R.O. 1990
(General)

Note: Since January 1, 1997, Regulation 262 has been amended by Ontario Regulation 112/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 1 of Regulation 262 of the Revised Regulations of Ontario, 1990 is amended by adding the following definitions:

"prescribed board" means a prescribed board under section 68.3; ("conseil prescrit")

"provider enhancement grant" means a grant for persons providing private-home day care. ("subvention d'aide aux fournisseurs")

"wage subsidy" means a subsidy for the enhancement of salaries and benefits for employees of day nurseries, private-home day care agencies and resource centres; ("subvention salariale")

10. For December, 1998, 8.7 per cent.

(2) For the purpose of clause 8 (1) (b) of the Act, the corresponding amount to be recovered from the regional municipalities and the City of Toronto for each billing period is the same as the Authority's costs for that billing period, as set out in subsection (1).

3. For the purpose of subsection 8 (3) of the Act, the amount of the Authority's costs to be recovered from the regional municipalities and the City of Toronto shall be allocated among them in accordance with the following formula:

1. 10.6 per cent from the Regional Municipality of Durham.
2. 9.6 per cent from the Regional Municipality of Halton.
3. 3.1 per cent from the Regional Municipality of Hamilton-Wentworth.
4. 15.6 per cent from the Regional Municipality of Peel.
5. 11.2 per cent from the Regional Municipality of York.
6. 49.9 per cent from the City of Toronto.

4. (1) The Minister shall give the regional municipalities and the City of Toronto the notice required by section 8.1 of the Act with respect to the first billing period by March 1, 1998.

(2) The Minister shall give the regional municipalities and the City of Toronto the notice required by section 8.1 of the Act with respect to subsequent billing periods by the first day of the month before the beginning of each billing period to which the notice relates.

5. This Regulation comes into force on January 1, 1998.

52/97

RÈGLEMENT DE L'ONTARIO 482/97
pris en application de la
LOI SUR LES GARDERIES

pris le 10 décembre 1997
déposé le 12 décembre 1997

modifiant le Règl. 262 des R.R.O. de 1990
(Dispositions générales)

Remarque : Depuis le 1^{er} janvier 1997, le Règlement 262 a été modifié par le Règlement de l'Ontario 112/97. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. L'article 1 du Règlement 262 des Règlements refondus de l'Ontario de 1990 est modifié par adjonction des définitions suivantes :

«conseil prescrit» Conseil prescrit aux termes de l'article 68.3. («prescribed board»)

«subvention d'aide aux fournisseurs» Subvention destinée aux personnes qui fournissent des services de garde d'enfants en résidence privée. («provider enhancement grant»)

«subvention salariale» Subvention visant à améliorer le traitement et les avantages sociaux des employés de garderies, d'agences de garde d'enfants en résidence privée et de centres de documentation. («wage subsidy»)

2. Subsection 51 (2) of the Regulation is amended by striking out "or band" in the second and in the third lines and substituting in each case "band or prescribed board".

3. The Regulation is amended by adding the following section:

PREScribed SERVICES

66.1 The following services are prescribed as services respecting the provision of which the Minister may enter into agreements for the purposes of subsection 7.2 (1) of the Act:

1. The provision of in-home services with respect to which a municipality enters into an agreement under subsection 5 (1) of the Act.
2. The provision of in-home services under an agreement with the Minister.
3. The provision of resource centres that provide information, public education, consultation, supports and services to individuals, including parents, with respect to the care they give to children.
4. The provision of staff, equipment, supplies or services in a place where private-home day care is provided or in a day nursery with respect to the special needs of handicapped children.
5. The operation of a day nursery by a municipality or prescribed board or the purchase of service from a day nursery by a municipality or prescribed board.
6. The operation of a day nursery by a person other than a municipality or prescribed board.
7. The provision of private-home day care by a municipality or prescribed board or the purchase of service from a private-home day care agency by a municipality or prescribed board.
8. The provision of private-home day care by a person other than a municipality or prescribed board.
9. The provision of funding to recipients under the *General Welfare Assistance Act* who participate in a program under subsection 4.3 (3) of Regulation 537 of the Revised Regulations of Ontario, 1990 for the care of a child less than 12 years of age or of a handicapped child less than 18 years of age, where the child care is provided to enable the recipients to so participate.

4 (1) Subsection 67 (1) of the Regulation is revoked and the following substituted:

(1) Every municipality, band, prescribed board or approved corporation claiming payment under the Act shall annually before a date fixed by a Director in each year prepare and submit to a Director, on a form approved by the Minister, an estimate of the costs and revenue and of the amount the Minister is to pay for the next fiscal year.

(2) Subsection 67 (2) of the Regulation is amended by inserting after "band" in the first line "prescribed board".

(3) Subsection 67 (4) of the Regulation is amended by inserting after "band" in the second line "prescribed board".

(4) Subsection 67 (5) of the Regulation is amended by striking out "or band" in the fourth line and substituting "band or prescribed board".

2. Le paragraphe 51 (2) du Règlement est modifié par substitution de «, d'une bande ou d'un conseil prescrit» à «ou d'une bande» à la troisième ligne et de «, la bande ou le conseil prescrit» à «ou la bande» à la quatrième ligne.

3. Le Règlement est modifié par adjonction de l'article suivant :

SERVICES PRESCRITS

66.1 Les services suivants sont prescrits comme des services à l'égard de la prestation desquels le ministre peut conclure des ententes pour l'application du paragraphe 7.2 (1) de la Loi :

1. La prestation de services à domicile à l'égard desquels une municipalité conclut une entente en vertu du paragraphe 5 (1) de la Loi.
2. La prestation de services à domicile aux termes d'une entente conclue avec le ministre.
3. La fourniture de centres de documentation chargés de fournir des renseignements, des services en matière d'éducation publique, des services de consultation, des appuis et autres services aux particuliers, y compris les pères et mères, en ce qui a trait aux soins qu'ils donnent aux enfants.
4. La dotation en personnel, en équipement ou en fournitures ou la prestation de services à un endroit où des services de garde d'enfants en résidence privée sont fournis ou dans une garderie en ce qui a trait aux besoins particuliers des enfants handicapés.
5. L'exploitation d'une garderie par une municipalité ou un conseil prescrit ou l'achat, par une municipalité ou un conseil prescrit, de services fournis par une garderie.
6. L'exploitation d'une garderie par une personne autre qu'une municipalité ou un conseil prescrit.
7. La prestation, par une municipalité ou un conseil prescrit, de services de garde d'enfants en résidence privée ou l'achat, par une municipalité ou un conseil prescrit, de services fournis par une agence de garde d'enfants en résidence privée.
8. La prestation, par une personne autre qu'une municipalité ou un conseil prescrit, de services de garde d'enfants en résidence privée.
9. La fourniture de fonds aux bénéficiaires visés par la *Loi sur l'aide sociale générale* qui participent à un programme prévu au paragraphe 4.3 (3) du Règlement 537 des Règlements refondus de l'Ontario de 1990 relativement aux soins à fournir aux enfants de moins de 12 ans ou aux enfants handicapés de moins de 18 ans, lorsque les soins sont fournis pour permettre aux bénéficiaires de participer à un tel programme.

4. (1) Le paragraphe 67 (1) du Règlement est abrogé et remplacé par ce qui suit :

(1) Toute municipalité, bande ou personne morale agréée ou tout conseil prescrit qui demande un paiement en vertu de la Loi établit et présente annuellement à un directeur, avant une date fixée chaque année par un directeur et selon la formule approuvée par le ministre, des prévisions relatives aux frais et aux revenus ainsi qu'au montant payable par le ministre pour l'exercice suivant.

(2) Le paragraphe 67 (2) du Règlement est modifié par insertion de «, le conseil prescrit» après «la bande» à la deuxième ligne.

(3) Le paragraphe 67 (4) du Règlement est modifié par insertion de «, à un conseil prescrit» après «à une bande» à la deuxième ligne.

(4) Le paragraphe 67 (5) du Règlement est modifié par substitution de «, de la bande ou du conseil prescrit» à «ou de la bande» à la quatrième ligne.

(5) Subsection 67 (6) of the Regulation is amended by inserting after "band" in the second line and in the third line "prescribed board".

(6) Subsection 67 (7) of the Regulation is revoked and the following substituted:

(7) The money paid under this section to a municipality, band, prescribed board or approved corporation shall be expended by it in accordance with the estimate, as approved by the Director.

(7) Subsections 67 (8) and (9) of the Regulation are revoked.

5. (1) Subsections 68 (1) and (1.1) of the Regulation are revoked.

(2) Subsection 68 (3) of the Regulation is amended by striking out "municipality" in the first and third lines of clause (a) and by striking out "municipality or" in the first line of clause (b).

6. The Regulation is amended by adding the following sections:

68.1 (1) The amount payable to a municipality or prescribed board under an agreement with the municipality or prescribed board under section 7.2 of the Act with respect to the services prescribed under paragraph 9 of section 66.1 of this Regulation is 80 per cent of the total cost to be paid for those services, as set out in the agreement.

(2) The amount payable to a municipality or prescribed board under an agreement with the municipality or prescribed board under section 7.2 of the Act with respect to the services prescribed under paragraph 1, 3 or 4 of section 66.1 of this Regulation is 100 per cent of the total cost to be paid for those services, as set out in the agreement.

(3) The amount payable to a municipality or prescribed board under an agreement with the municipality or prescribed board under section 7.2 of the Act with respect to the services prescribed under paragraph 5 or 7 of section 66.1 of this Regulation is,

- (a) if the agreement or part of the agreement is with respect to children whose parents are persons in need and those children are in attendance at day nurseries or private-home day care, 80 per cent of the operating costs of those day nursery services or that private-home day care for those children or, if the fees payable by their parents exceed 20 per cent of those operating costs, the amount necessary to ensure that the sum of the amount payable to the municipality or prescribed board and the fees payable by their parents equals those operating costs;
- (b) if the agreement or part of the agreement is with respect to handicapped children in attendance at day nurseries or private-home day care, 80 per cent of the operating costs of providing those day nursery services or that private-home day care for those handicapped children or, if the fees payable by their parents exceed 20 per cent of those operating costs, the amount necessary to ensure that the sum of the amount payable to the municipality or prescribed board and the fees payable by their parents equals those operating costs;
- (c) if the agreement or part of the agreement is with respect to wage subsidies for day nurseries or private-home day care agencies operated by the municipality or prescribed board, 100 per cent of the costs of providing wage subsidies;

(5) Le paragraphe 67 (6) du Règlement est modifié par insertion de «, au conseil prescrit» après «à la bande» à la deuxième ligne et de «, le conseil prescrit» après «la bande» à la troisième ligne.

(6) Le paragraphe 67 (7) du Règlement est abrogé et remplacé par ce qui suit :

(7) La municipalité, la bande, le conseil prescrit ou la personne morale agréée dépense les sommes qui lui sont versées aux termes du présent article conformément aux prévisions qu'approuve le directeur.

(7) Les paragraphes 67 (8) et (9) du Règlement sont abrogés.

5. (1) Les paragraphes 68 (1) et (1.1) du Règlement sont abrogés.

(2) Le paragraphe 68 (3) du Règlement est modifié par suppression de «à une municipalité,» et de «la municipalité,» aux première ligne et quatrième ligne respectivement de l'alinéa a) et de «à une municipalité ou» à la première ligne de l'alinéa b).

6. Le Règlement est modifié par adjonction des articles suivants :

68.1 (1) Le montant payable à une municipalité ou à un conseil prescrit aux termes d'une entente conclue avec l'un ou l'autre en vertu de l'article 7.2 de la Loi relativement aux services prescrits aux termes de la disposition 9 de l'article 66.1 du présent règlement équivaut à 80 pour cent de la totalité des frais à engager pour ces services, comme l'énonce l'entente.

(2) Le montant payable à une municipalité ou à un conseil prescrit aux termes d'une entente conclue avec l'un ou l'autre en vertu de l'article 7.2 de la Loi relativement aux services prescrits aux termes de la disposition 1, 3 ou 4 de l'article 66.1 du présent règlement équivaut à 100 pour cent de la totalité des frais à engager pour ces services, comme l'énonce l'entente.

(3) Le montant payable à une municipalité ou à un conseil prescrit aux termes d'une entente conclue avec l'un ou l'autre en vertu de l'article 7.2 de la Loi relativement aux services prescrits aux termes de la disposition 5 ou 7 de l'article 66.1 du présent règlement équivaut à ce qui suit :

- a) si l'entente ou une partie de celle-ci porte sur des enfants dont le père et la mère sont des personnes dans le besoin et que ces enfants fréquentent des garderies ou reçoivent des services de garde d'enfants en résidence privée, 80 pour cent des frais d'exploitation engagés pour fournir ces services de garderie ou de garde d'enfants en résidence privée à ces enfants ou, si les droits d'inscription payables par leurs père et mère dépassent 20 pour cent de ces frais d'exploitation, le montant nécessaire pour que la somme du montant payable à la municipalité ou au conseil prescrit et des droits d'inscription payables par leurs père et mère soit égale au montant de ces frais d'exploitation;
- b) si l'entente ou une partie de celle-ci porte sur des enfants handicapés qui fréquentent des garderies ou reçoivent des services de garde d'enfants en résidence privée, 80 pour cent des frais d'exploitation engagés pour fournir ces services de garderie ou de garde d'enfants en résidence privée à ces enfants ou, si les droits d'inscription payables par leurs père et mère dépassent 20 pour cent de ces frais d'exploitation, le montant nécessaire pour que la somme du montant payable à la municipalité ou au conseil prescrit et des droits d'inscription payables par leurs père et mère soit égale au montant de ces frais d'exploitation;
- c) si l'entente ou une partie de celle-ci porte sur les subventions salariales fournies aux garderies ou aux agences de garde d'enfants en résidence privée exploitées par la municipalité ou le conseil prescrit, 100 pour cent des frais engagés pour fournir les subventions salariales;

(d) if the agreement or part of the agreement is with respect to provider enhancement grants for private-home day care agencies operated by the municipality or prescribed board, 100 per cent of the costs of providing provider enhancement grants; and

(e) 80 per cent of the costs incurred by the municipality or prescribed board under the agreement with respect to determining whether parents are persons in need.

(4) For the purposes of clauses (3) (a) and (b), "operating cost" does not include wage subsidies or provider enhancement grants.

68.2 (1) In this section,

"approved municipality" means a municipality that has, with the approval of the Minister, appointed a welfare administrator under the *General Welfare Assistance Act*.

(2) Every approved municipality and every prescribed board shall pay to Ontario 20 per cent of the total cost to be paid for services, as set out in an agreement under section 7.2 of the Act with a municipality, a prescribed board or another person, if those services are prescribed under paragraph 1, 2 or 4 of section 66.1 of this Regulation and are provided in the area with respect to which the approved municipality or prescribed board provides assistance under the *General Welfare Assistance Act*.

(3) Every approved municipality and every prescribed board shall pay to Ontario 20 per cent of the total cost to be paid for services other than wage subsidies, as set out in an agreement under section 7.2 of the Act with a municipality, a prescribed board or another person, if those services are prescribed under paragraph 3 of section 66.1 of this Regulation and are provided in the area with respect to which the approved municipality or prescribed board provides assistance under the *General Welfare Assistance Act*.

(4) Every approved municipality and every prescribed board shall pay to Ontario 20 per cent of the total cost to be paid for wage subsidies and for provider enhancement grants, as set out in an agreement under section 7.2 of the Act with a municipality, a prescribed board or another person, if the wage subsidies or provider enhancement grants are part of a service prescribed under paragraph 3, 5, 6, 7 or 8 of section 66.1 of this Regulation and are provided in the area with respect to which the approved municipality or prescribed board provides assistance under the *General Welfare Assistance Act*.

68.3 Every district welfare administration board under the *District Welfare Administration Boards Act* is prescribed as a board for the purposes of this Regulation.

7. (1) Subsection 81 (1) of the Regulation is amended by inserting after "band" in the first line "prescribed board".

(2) Subsection 81 (2) of the Regulation is amended by inserting after "band" in the second line "prescribed board".

(3) Subsection 81 (4) of the Regulation is amended by inserting after "band" in the second line "prescribed board".

(4) Subsection 81 (5) of the Regulation is amended by inserting after "band" in the second line "prescribed board".

8. This Regulation comes into force on January 1, 1998.

d) si l'entente ou une partie de celle-ci porte sur les subventions d'aide aux fournisseurs fournies aux agences de garde d'enfants en résidence privée exploitées par la municipalité ou le conseil prescrit, 100 pour cent des frais engagés pour fournir les subventions d'aide aux fournisseurs;

e) 80 pour cent des frais engagés par la municipalité ou le conseil prescrit aux termes de l'entente pour déterminer si les père et mère sont des personnes dans le besoin.

(4) Pour l'application des alinéas (3) a) et b), «frais d'exploitation» ne s'entend pas des subventions salariales ni des subventions d'aide aux fournisseurs.

68.2 (1) La définition qui suit s'applique au présent article.

«municipalité approuvée» Municipalité qui, avec l'approbation du ministre, a nommé un administrateur de l'aide sociale aux termes de la *Loi sur l'aide sociale générale*.

(2) Chaque municipalité approuvée et chaque conseil prescrit versent à l'Ontario 20 pour cent de la totalité des frais à engager au titre des services qui sont énoncés dans une entente conclue en vertu de l'article 7.2 de la Loi avec une municipalité, un conseil prescrit ou une autre personne, lorsque ces services sont prescrits aux termes de la disposition 1, 2 ou 4 de l'article 66.1 du présent règlement et sont fournis dans la zone à l'égard de laquelle la municipalité approuvée ou le conseil prescrit fournit une aide aux termes de la *Loi sur l'aide sociale générale*.

(3) Chaque municipalité approuvée et chaque conseil prescrit versent à l'Ontario 20 pour cent de la totalité des frais à engager au titre des services, autres que les subventions salariales, qui sont énoncés dans une entente conclue en vertu de l'article 7.2 de la Loi avec une municipalité, un conseil prescrit ou une autre personne, lorsque ces services sont prescrits aux termes de la disposition 3 de l'article 66.1 du présent règlement et sont fournis dans la zone à l'égard de laquelle la municipalité approuvée ou le conseil prescrit fournit une aide aux termes de la *Loi sur l'aide sociale générale*.

(4) Chaque municipalité approuvée et chaque conseil prescrit versent à l'Ontario 20 pour cent de la totalité des frais à engager au titre des subventions salariales et des subventions d'aide aux fournisseurs qui sont énoncées dans une entente conclue en vertu de l'article 7.2 de la Loi avec une municipalité, un conseil prescrit ou une autre personne, lorsque celles-ci font partie d'un service prescrit aux termes de la disposition 3, 5, 6, 7 ou 8 de l'article 66.1 du présent règlement et sont fournies dans la zone à l'égard de laquelle la municipalité approuvée ou le conseil prescrit fournit une aide aux termes de la *Loi sur l'aide sociale générale*.

68.3 Chaque conseil d'administration de district de l'aide sociale créé en vertu de la *Loi sur les conseils d'administration de district de l'aide sociale* est prescrit comme conseil pour l'application du présent règlement.

7. (1) Le paragraphe 81 (1) du Règlement est modifié par substitution de «et aucun conseil prescrit ne doivent» à «ne doit» aux première et deuxième lignes.

(2) Le paragraphe 81 (2) du Règlement est modifié par insertion de «un conseil prescrit» après «bande» à la deuxième ligne.

(3) Le paragraphe 81 (4) du Règlement est modifié par insertion de «un conseil prescrit» après «bande» à la première ligne.

(4) Le paragraphe 81 (5) du Règlement est modifié par insertion de «un conseil prescrit» après «bande» à la deuxième ligne.

8. Le présent règlement entre en vigueur le 1^{er} janvier 1998.

ONTARIO REGULATION 483/97
made under the
CHILD AND FAMILY SERVICES ACT

Made: December 10, 1997

Filed: December 12, 1997

Amending Reg. 70 of R.R.O. 1990
(General)

Note: Regulation 70 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Subsection 18 (2) of Regulation 70 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

(2) Every society shall before a date to be fixed each year by the Minister prepare in a form provided by the Minister and file with the Minister an estimate of its net expenditures for the year next following.

(2) Subsections 18 (3) and (4) of the Regulation are revoked.

(3) Subsection 18 (5) of the Regulation is revoked and the following substituted:

(5) The Minister, at any time after the date fixed by the Minister has expired and the society has not filed an estimate, may determine the amount of the estimate and cause the estimate to be filed with the society.

(4) Subsections 18 (7) to (12) of the Regulation are revoked.

2. (1) Subsection 19 (1) of the Regulation is amended by striking out "and approved by the council of each municipality" in the first and second lines.

(2) Subsection 19 (2) of the Regulation is amended by striking out "and to the council of each municipality in the area in which the society has jurisdiction or to the District Child Welfare Budget Board, as the case may be" at the end.

3. (1) Subsection 20 (1) of the Regulation is revoked.

(2) Subsection 20 (2) of the Regulation is amended by striking out "the council of a municipality or a District Child Welfare Budget Board" in the first and second lines.

(3) Subsection 20 (3) of the Regulation is revoked.

4. (1) Subsection 21 (1) of the Regulation is amended by adding "and" at the end of clause (a), by striking out "and" at the end of clause (b) and by striking out clause (c).

(2) Subsection 21 (2) of the Regulation is revoked.

(3) Subsection 21 (3) of the Regulation is revoked and the following substituted:

(3) The Minister shall, after receiving a request to refer a matter to a child welfare review committee, forthwith appoint the member referred to in clause (1) (a) and cause notice to be given to the Ontario Association of Children's Aid Societies to appoint, within 10 days of the notice having been given, the member referred to in clause (1) (b) and to inform the Minister forthwith of the name of the member so appointed.

(4) Subsection 21 (5) of the Regulation is revoked and the following substituted:

(5) If the Ontario Association of Children's Aid Societies fails to appoint a member within the time prescribed, the Minister shall, in the place of the Association, forthwith appoint the member to the committee.

(5) Subsection 21 (6) of the Regulation is amended by striking out "all" in the second line.

(6) Subsection 21 (7) of the Regulation is amended by striking out "the municipality or the District Child Welfare Budget Board" in the second and third lines.

(7) Subsection 21 (11) of the Regulation is amended by inserting after "review" in the third line "or" and by striking out "or determine the portion of the estimate referable to a municipality" in the fourth and fifth lines.

5. Section 22 of the Regulation is revoked and the following substituted:

22. For the purpose of subsection 19 (2) of the Act, the amount that the Minister shall pay to a society shall be equal to 100 per cent of the approved estimate of net expenditures.

6. (1) Subsections 23 (1), (2), (3) and (4) of the Regulation are revoked and the following substituted:

(1) After the estimate of net expenditures of a society for a year is finally approved by the Minister, the society may at any time within one year after the end of the society's fiscal year file with the Minister,

(a) an amendment to the approved estimate of the society not included in the original approved estimate for the year; or

(b) a supplementary estimate of net expenditures of the society not included in the original approved estimate for the year.

(2) Subsection 23 (5) of the Regulation is amended by striking out "and approved by the council of each municipality" in the third and fourth lines.

(3) Subsection 23 (6) of the Regulation is amended by striking out "and to the council of each municipality in the area in which the society has jurisdiction" at the end.

(4) Subsection 23 (7) of the Regulation is revoked and the following substituted:

(7) A society that does not agree with the Minister's intention under subsection (6) may, before the Minister's refusal or approval is given, request the Minister to refer the matter to a child welfare review committee.

(5) Subsection 23 (8) of the Regulation is amended by striking out "(4) or" in the second line.

(6) Subsection 23 (9) of the Regulation is revoked.

(7) Subsection 23 (10) of the Regulation is amended by striking out "and by a municipality" in the third and fourth lines and by striking out "subsections 19 (2) and (3)" in the last line and substituting "subsection 19 (2)".

(8) Subsection 23 (11) of the Regulation is revoked.

7. Sections 24 and 25 of the Regulation are revoked.

8. Despite the amendments to the Regulation set out in sections 1 to 7, sections 18 to 25 of the Regulation, as they read on

December 31, 1997, apply for the purpose of determining the amount payable to societies under section 19 of the Act with respect to any of their fiscal years ending before January 1, 1998.

9. This Regulation comes into force on January 1, 1998.

52/97

ONTARIO REGULATION 484/97
made under the
DISTRICT WELFARE ADMINISTRATION BOARDS ACT

Made: December 10, 1997
Filed: December 12, 1997

Amending Reg. 273 of R.R.O. 1990
(Application for Grant under Section 10 of the Act)

Note: Regulation 273 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 2 of Regulation 273 of the Revised Regulations of Ontario, 1990 is amended by striking out "and" at the end of clause (f) and by adding the following clauses:

- (f.1) the services set out in section 66.1 of Regulation 262 of the Revised Regulations of Ontario, 1990, made under the *Day Nurseries Act*;
- (f.2) expenditures with respect to provincial social housing costs under the *Social Housing Funding Act, 1997*; and

2. This Regulation comes into force on January 1, 1998.

52/97

ONTARIO REGULATION 485/97
made under the
FAMILY BENEFITS ACT

Made: December 10, 1997
Filed: December 12, 1997

Amending Reg. 366 of R.R.O. 1990
(General)

Note: Regulation 366 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Clause 5 (c) of Regulation 366 of the Revised Regulations of Ontario, 1990 is amended by adding "or" at the end of subclause (i), by striking out "or" at the end of subclause (ii) and by striking out subclause (iii).

2. (1) Clause 12 (6.1) (a) of the Regulation is amended by adding "per person" at the end.

(2) The definition of "institution" in subsection 12 (6.3) of the Regulation is amended by striking out "or the *General Welfare Assistance Act*" at the end of clause (b) and by adding the following clause:

(g) an interval or transition home for abused women.

3. The Regulation is amended by adding the following heading and section at the end:

**COST SHARING FOR MUNICIPALITIES AND
DISTRICT WELFARE ADMINISTRATION BOARDS**

42. (1) In this section,

"assistance" means,

- (a) an amount provided under subsection 14 (2) of the Act, or
- (b) a benefit provided under the Act other than,
 - (i) an amount paid to a recipient eligible for an allowance under subsection 2 (6),
 - (ii) an amount paid under subsection 12 (12), or
 - (iii) an amount paid to a person under section 32 or 38;

"cost of administration" means the administrative costs incurred or payable by Ontario with respect to the provision of assistance under the Act;

"delivery agent" means,

- (a) a municipality that has, with the approval of the Minister, appointed a welfare administrator under the *General Welfare Assistance Act*, or
- (b) a district welfare administration board under the *District Welfare Administration Boards Act*;

"geographic area" means,

- (a) in the Greater Toronto Area, the Greater Toronto Area, and
- (b) otherwise, the area in which a delivery agent is responsible for delivering assistance under the *General Welfare Assistance Act*;

"Greater Toronto Area" means the area that lies within the jurisdiction of the Regional Municipality of Durham, the Regional Municipality of Halton, the Regional Municipality of Peel, the City of Toronto and the Regional Municipality of York.

(2) The amount payable to Ontario by a delivery agent that is not in the Greater Toronto Area shall be equal to the sum of,

- (a) 20 per cent of the cost of assistance provided by or on behalf of Ontario to persons who reside within the delivery agent's geographic area; and
- (b) if the delivery agent employs a full-time welfare administrator, 50 per cent of the reasonable cost of administration attributable to the delivery agent's geographic area.

(3) The amount payable to Ontario by a delivery agent within the Greater Toronto Area shall be calculated as follows:

1. Determine 20 per cent of the cost of assistance provided by or on behalf of Ontario to persons who reside within the Greater Toronto Area.
2. Add to that amount 50 per cent of the reasonable cost of administration attributable to the Greater Toronto Area.
3. Apportion the amount determined under paragraph 2 among the delivery agents by multiplying that amount by the percentage

attributable to each delivery agent, as set out in the following Table:

TABLE

| DELIVERY AGENT | PERCENTAGE OF TOTAL |
|---------------------------------|---------------------|
| Regional Municipality of Durham | 7.3067 per cent |
| Regional Municipality of Halton | 7.4182 per cent |
| Regional Municipality of Peel | 18.5113 per cent |
| City of Toronto | 52.0253 per cent |
| Regional Municipality of York | 14.7385 per cent |

4. This Regulation comes into force on January 1, 1998.

52/97

ONTARIO REGULATION 486/97
made under the
GENERAL WELFARE ASSISTANCE ACT

Made: December 10, 1997
Filed: December 12, 1997

Revoking Reg. 535 of R.R.O. 1990
(Civil Legal Aid)

1. Regulation 535 of the Revised Regulations of Ontario, 1990 is revoked.

2. This Regulation comes into force on January 1, 1998.

52/97

ONTARIO REGULATION 487/97
made under the
GENERAL WELFARE ASSISTANCE ACT

Made: December 10, 1997
Filed: December 12, 1997

Amending Reg. 537 of R.R.O. 1997
(General)

Note: Regulation 537 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) The definition of "hostel" in subsection 1 (1) of Regulation 537 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

"emergency hostel services" means the provision of board, lodging and personal needs to homeless persons on a short term, infrequent basis, but does not include services provided to residents of interval or transition homes for abused women.

(2) The definition of "work activity project" in subsection 1 (1) of the Regulation is revoked.

(3) Subsection 1 (5) of the Regulation is revoked and the following substituted:

(5) Subject to subsections (5.1) and (6), an applicant or recipient shall be deemed for the purposes of the Act and this Regulation to reside or to have resided in the municipality, the territory without municipal organization or on the reserve, as the case may be, where the applicant is or was ordinarily resident at the date of the application, so long as he or she remains in the municipality, territory or reserve.

(5.1) For the purposes of subsection (5), an applicant or recipient who is or was a resident in a nursing home or a hospital at the date of the application shall be deemed to reside or have resided in the municipality, territory without municipal organization or on the reserve, as the case may be, where the applicant is or was ordinarily resident other than in an institution, immediately before admission to the nursing home or hospital.

(4) Section 1 of the Regulation is amended by adding the following subsection:

(7) Emergency hostel services may be provided by a municipality, a District Welfare Administration Board under the *District Welfare Administration Boards Act* or an approved band or by a person or organization under an agreement with one of them.

2. Section 8 of the Regulation is revoked and the following substituted:

8. The classes of assistance are general assistance, special assistance and supplementary aid.

3. (1) Subsection 9 (1) of the Regulation is revoked and the following substituted:

(1) Except as otherwise provided in this section, an application shall be in Form 1 of this Regulation or Form 1 of Regulation 366 of the Revised Regulations of Ontario, 1990 made under the *Family Benefits Act*.

(2) Subclause 9 (6) (a) (i) of the Regulation is revoked and the following substituted:

(i) with respect to emergency hostel services,

(3) Subsection 9 (6) of the Regulation is amended by adding "or" at the end of clause (c) and by striking out clause (d).

4. (1) Clause 10 (1) (a) of the Regulation is revoked and the following substituted:

(a) complete a monthly application for payment of a subsidy by Ontario in a form approved by the Director for each class of assistance paid in the month and forward it to the Minister before the 20th day of the month next following;

(a.1) complete an annual application for payment of a subsidy by Ontario in a form approved by the Director with respect to the cost of administration as defined in section 24 and the cost of staff training in each year;

(a.2) complete a quarterly report with respect to the costs referred to in clause (a.1) in a form approved by the Director, if requested to do so by the Director;

(2) Subsection 10 (2) of the Regulation is revoked and the following substituted:

(2) The Minister may,

(a) require the welfare administrator to provide the Minister with whatever information as to the contents of the information submitted under clause (1) (a), (a.1) or (a.2) that the Minister considers necessary; and

(b) require an inspection and audit of the books and accounts of the municipality or approved band relating to the information submitted under subsection (1).

(3) Subsection 10 (5) of the Regulation is revoked.

5. (1) Clause 12 (1) (b) of the Regulation is revoked and the following substituted:

(b) not a resident in an institution other than a nursing home or an interval or transition home for abused women; and

.

(2) Subsection 12 (7) of the Regulation is revoked and the following substituted:

(7) Subject to subsection (8), Ontario shall pay by way of reimbursement to the council of an approved band that pays general assistance to a person eligible for it under subsection (1),

(a) subject to clause (b), 80 per cent of the amount of general assistance paid to or on behalf of the person; and

(b) if the person is a head of a family whose spouse is absent, 80 per cent of the amount of general assistance paid to or on behalf of the person as a result of the application of clauses 13 (5) (b) and (b.1) and subsection 16 (8) and 100 per cent of the amount of any other general assistance paid to or on behalf of the person.

(3) Subsection 12 (9) of the Regulation is revoked.

6. Clauses 13 (5) (a) and (b) of the Regulation are revoked and the following substituted:

(a) who is resident in a nursing home or in an interval or transition home for abused women that is not maintained or operated by or on behalf of the council of an approved band, is a personal needs allowance of \$112 per month for each applicant, recipient or dependant;

(b) who is a recipient of emergency hostel services, is the cost approved by the Director of providing the applicant or recipient with board, lodging and personal needs;

(b.1) who is resident in an interval or transition home for abused women that is maintained or operated by or on behalf of the council of an approved band, is the cost approved by the Director of providing the applicant or recipient with board or lodging in the home plus a personal needs allowance of \$112 per month for each applicant, recipient or dependant; and

.

7. Paragraph 31 of subsection 15 (2) of the Regulation is revoked.

8. Subsections 18 (6) and (7) of the Regulation are revoked and the following substituted:

(6) The Province of Ontario shall pay by way of reimbursement to the council of the approved band 50 per cent of the amounts paid for special assistance.

(7) Despite subsection (6), the Province of Ontario shall pay by way of reimbursement to the council of the approved band 80 per cent of any amount approved by the Director and paid as special assistance under clause (3) (a).

9. Section 19 of the Regulation is revoked and the following substituted:

19. Subject to subsection 19.1 (3), where an approved band pays supplementary aid for the purpose of assisting a person to meet the cost of energy for heat or shelter, or to provide for any other special service, item or payment authorized by the Director, Ontario shall pay by way of reimbursement to the council of the approved band 80 per cent of the monthly amounts so paid.

10. Subsection 19.1 (3) of the Regulation is amended by deleting "municipality or" in the first line.

11. Section 20 of the Regulation is revoked.

12. Section 22 of the Regulation is amended by striking out "section 25" in the third line and substituting "section 24".

13. Section 23 of the Regulation and the heading that precedes it are revoked.

14. Section 24 of the Regulation is revoked and the following substituted:

24. (1) In this section and section 24.1,

"cost of administration" means the administrative costs incurred with respect to the provision of assistance under the Act, but does not include the cost of staff training.

(2) The subsidy payable by Ontario to an approved band that employs a full time welfare administrator shall be equal to 50 per cent of the band's reasonable cost of administration as approved by the Director.

(3) The subsidy payable by Ontario to an approved band in respect of the cost of staff training shall be equal to 80 per cent of the band's reasonable cost of staff training as approved by the Director.

(4) The subsidy payable by Ontario to an approved band with respect to the cost of maintenance ordered by the board of review under subsection 11 (4) of the Act shall be equal to,

(a) subject to clause (b), 80 percent of that cost; and

(b) if the person to whom the maintenance is paid is a head of a family whose spouse is absent, 80 per cent of the amount of general assistance paid to or on behalf of the person as a result of the application of clauses 13 (5) (b) and (b.1) and subsection 16 (8) and 100 per cent of any other amount paid to or on behalf of the person.

COST SHARING FOR MUNICIPALITIES AND DISTRICT WELFARE ADMINISTRATION BOARDS

24.1 (1) In this section and section 24.2,

"assistance costs" means the sum of,

(a) the cost of any class of assistance provided under the Act, and

(b) the cost of maintenance ordered by the board of review under subsection 11 (4) of the Act;

"delivery agent" means,

- (a) a municipality that has, with the approval of the Minister, appointed a welfare administrator, or
- (b) a district welfare administration board under the *District Welfare Administration Boards Act*;

"Greater Toronto Area" means the geographic area which lies within the jurisdiction of the Regional Municipality of Durham, the Regional Municipality of Halton, the Regional Municipality of Peel, the City of Toronto and the Regional Municipality of York.

(2) The subsidy payable to a delivery agent that is not in the Greater Toronto Area shall be equal to the sum of,

- (a) 80 per cent of the assistance costs incurred by the delivery agent;
- (b) if the delivery agent employs a full-time welfare administrator, 50 per cent of the delivery agent's reasonable cost of administration, as approved by the Director; and
- (c) 50 per cent of the delivery agent's reasonable cost of staff training, as approved by the Director.

(3) The subsidy payable by Ontario to a delivery agent in the Greater Toronto Area shall be calculated as follows:

1. For each delivery agent, determine the total of the assistance costs incurred by that delivery agent and the reasonable cost of administration and staff training, as approved by the Director and incurred by that delivery agent.
2. For each delivery agent, determine the sum of 20 per cent of the assistance costs incurred by that delivery agent and 50 per cent of the reasonable cost of administration and staff training, as approved by the Director and incurred by that delivery agent.
3. For the Greater Toronto Area, calculate the sum of the amounts determined under paragraph 2.
4. Apportion among the delivery agents their share of the amount determined under paragraph 3 by multiplying that amount by the percentage of the total attributable to each delivery agent, as set out in the Table to this section.
5. For each delivery agent, subtract from the amount determined under paragraph 1 the amount determined under paragraph 4.

TABLE

| DELIVERY AGENT | PERCENTAGE OF TOTAL |
|---------------------------------|---------------------|
| Regional Municipality of Durham | 7.3067 per cent |
| Regional Municipality of Halton | 7.4182 per cent |
| Regional Municipality of Peel | 18.5113 per cent |
| City of Toronto | 52.0253 per cent |
| Regional Municipality of York | 14.7385 per cent |

24.2 The Minister may deduct from a subsidy payable by Ontario to a delivery agent under section 24.1 an amount equal to the sum of,

- (a) the amount the delivery agent is required to pay to Ontario under Regulation 366 of the Revised Regulations of Ontario, 1990, made under the *Family Benefits Act*; and

- (b) the amount the delivery agent is required to pay to Ontario under Regulation 262 of the Revised Regulations of Ontario, 1990, made under the *Day Nurseries Act*.

15. Section 27 of the Regulation is amended by striking out "Despite subsection 12 (7), subsection 18 (6), section 19 and subsection 24 (6)" at the beginning.

16. Subsection 28 (2) of the Regulation is amended by striking out "or 23" in the fourth line and substituting "24 or 24.1 and 24.2".

17. Subsection 30 (4) of the Regulation is amended by striking out "For the purposes of subsection 12 (7)" at the beginning.

18. The Regulation is amended by adding the following section:

32. Subsection 15.1 (1) of the Act does not apply with respect to,

- (a) the *Workplace Safety and Insurance Act, 1997*; or
- (b) the *Occupational Health and Safety Act*, except with respect to sections 8 and 9 of the Act.

19. Forms 7, 8 and 9 of the Regulation are revoked.

20. This Regulation comes into force on January 1, 1998.

52/97

ONTARIO REGULATION 488/97
made under the
SOCIAL HOUSING FUNDING ACT, 1997

Made: December 10, 1997
Filed: December 12, 1997

GENERAL

1. In this Regulation,

"Greater Toronto Area" means the geographic area which lies within the jurisdiction of the Regional Municipality of Durham, the Regional Municipality of Halton, the Regional Municipality of Peel, the City of Toronto and the Regional Municipality of York;

"separated municipality" means a municipality that is situated within a county but does not form part of the county for municipal purposes;

"territorial district" means a territorial district under the *Territorial Division Act* other than the Territorial District of Muskoka.

2. The following entities are prescribed as boards for the purposes of subsection 4 (4) of the Act:

1. Algoma District Welfare Administration Board.
2. Cochrane District Welfare Administration Board.
3. Nipissing District Welfare Administration Board.
4. Parry Sound District Welfare Administration Board.
5. Rainy River District Welfare Administration Board.
6. Sudbury District Welfare Administration Board.

3. (1) Subject to subsection (2), a billing period is a calendar month.

(2) The first billing period is January, February and March, 1998.

(3) A notice under subsection 5 (1) of the Act shall be given to an entity no later than 30 days after the last day of the billing period to which it relates.

4. (1) Provincial social housing costs that form part of the cost of funding and administering the Ontario Housing Corporation and relate to agreements with landlords of housing not owned by the Ontario Housing Corporation with respect to rent supplements shall be deemed to have been incurred in the billing period preceding the month in which they are paid by the Minister.

(2) Despite subsection (1), provincial social housing costs described in subsection (1) that are paid by the Minister in January, February, March or April of 1998 shall be deemed to be incurred in the first billing period.

(3) Provincial social housing costs that form part of the cost of funding and administering the Ontario Housing Corporation, other than the costs described in subsection (1), shall be deemed,

(a) to be incurred in the billing period in which they are paid by the Minister, if they are paid after the 10th day of the billing period; and

(b) to have been incurred in the billing period preceding the one in which they are paid by the Minister, if they are paid before the 11th day of the billing period.

(4) Despite subsection (3), provincial social housing costs described in subsection (3) that are paid by the Minister,

(a) before January 11, 1998 shall be deemed to have been incurred before January 1, 1998; and

(b) after January 10, 1998 and before April 11, 1998 shall be deemed to be incurred in the first billing period.

(5) Provincial social housing costs with respect to funding and administering programs described in clause 2 (1) (b) of the Act shall be deemed to have been incurred in the billing period preceding the month in which a payment is first made by the Minister with respect to those costs.

(6) Despite subsection (5), provincial social housing costs described in subsection (5) that are paid by the Minister,

(a) in January, 1998 shall be deemed to have been incurred before January 1, 1998; and

(b) in February, March or April of 1998 shall be deemed to be incurred in the first billing period.

5. (1) Provincial social housing costs incurred or to be incurred with respect to housing located in territory without municipal organization are prescribed as provincial social housing costs that are not to be recovered for the purposes of clause 4 (1) (b) of the Act.

(2) The costs incurred or to be incurred in administering programs described in clause 2 (1) (b) of the Act are prescribed as provincial social housing costs that are not to be recovered for the purposes of clause 4 (1) (b) of the Act.

6. (1) Subject to subsections (2) to (5) and 7 (5), the provincial social housing costs to be recovered from an entity are the costs incurred or to be incurred in a billing period with respect to housing within the geographic area over which the entity has jurisdiction.

(2) The provincial social housing costs to be recovered under the Act for the Greater Toronto Area shall be allocated among the Regional Municipality of Durham, the Regional Municipality of Halton, the

Regional Municipality of Peel, the City of Toronto and the Regional Municipality of York by multiplying for each entity set out in Column 1 of Table 1 the total provincial social housing costs incurred or to be incurred in a billing period with respect to housing within the Greater Toronto Area by the percentage set out opposite to that entity in Column 2.

(3) The provincial social housing costs to be recovered under the Act in a territorial district in which no district welfare administration board has been established under the *District Welfare Administration Boards Act* shall be allocated among the entities within the territorial district by multiplying for each entity set out in Column 1 of Tables 2, 3, 4 and 5 the total provincial social housing costs incurred or to be incurred in a billing period with respect to housing within the territorial district in which it is located by the percentage set out opposite to that entity in Column 2.

(4) If a territorial district includes a district welfare administration board and a city to which the *District Welfare Administration Boards Act* does not apply, the provincial social housing costs to be recovered in the territorial district from the district welfare administration board and the city shall be allocated between the board and the city by multiplying for each entity set out in Column 1 of Tables 6, 7 and 8 the total provincial social housing costs incurred or to be incurred in the billing period with respect to housing within the territorial district by the percentage set out opposite to that entity in Column 2.

(5) Subject to subsection 7 (5), the provincial social housing costs to be recovered in a county with one or more separated municipalities shall be allocated among the county and those municipalities by multiplying for each entity set out in Column 1 of Tables 9 to 23 the total provincial social housing costs incurred or to be incurred in the billing period with respect to housing within the county by the percentage set out opposite to that entity in Column 2.

7. (1) This section applies with respect to every county with one or more separated municipalities in it.

(2) Upon the coming into force of this Regulation, a county and the separated municipalities in it may enter into an agreement under which the provincial social housing costs allocated to the county and the separated municipalities are based on the percentages set out in the agreement rather than the percentages set out in the appropriate Table under subsection 6 (5).

(3) An agreement under this section may provide for the reconciliation of amounts previously allocated to the entities by the Minister and may be effective with reference to a period before it is made.

(4) The county shall forward to the Minister a copy of an agreement made under this section forthwith after it is made.

(5) If an agreement under subsection (2) is in effect in a county with one or more separated municipalities, the provincial social housing costs to be recovered from the county and the separated municipalities shall be recovered in accordance with the agreement.

8. This Regulation comes into force on January 1, 1998.

TABLE 1

GREATER TORONTO AREA

| COLUMN 1 | COLUMN 2 |
|---------------------------------|------------------|
| Regional Municipality of Durham | 7.3067 per cent |
| Regional Municipality of Halton | 7.4182 per cent |
| Regional Municipality of Peel | 18.5113 per cent |
| City of Toronto | 52.0253 per cent |
| Regional Municipality of York | 14.7385 per cent |

TABLE 2

TERRITORIAL DISTRICT OF KENORA

| COLUMN 1 | COLUMN 2 |
|---------------------------|------------------|
| Township of Ignace | 1.6865 per cent |
| Township of Sioux Narrows | 2.6770 per cent |
| Town of Keewatin | 4.3704 per cent |
| Town of Jaffray Melick | 8.5065 per cent |
| Town of Kenora | 28.6060 per cent |
| Township of Machin | 1.8446 per cent |
| City of Dryden | 34.0931 per cent |
| Township of Ear Falls | 1.7022 per cent |
| Town of Sioux Lookout | 6.5411 per cent |
| Township of Red Lake | 3.9231 per cent |
| Township of Golden | 5.6652 per cent |
| Township of Pickle Lake | 0.3843 per cent |

TABLE 3

TERRITORIAL DISTRICT OF MANITOULIN

| COLUMN 1 | COLUMN 2 |
|---|------------------|
| Township of Tehkummah | 4.6318 per cent |
| Township of Carnarvon | 10.6899 per cent |
| Township of Sandfield | 5.9815 per cent |
| Township of Assiginack | 11.1929 per cent |
| Town of Northeastern Manitoulin & The Islands | 29.1285 per cent |
| Township of Billings | 14.0769 per cent |
| Township of Gordon | 8.3761 per cent |
| Town of Gore Bay | 6.4437 per cent |
| Township of Burpee & Mills | 2.8557 per cent |
| Township of Barrie Island | 1.4629 per cent |

| | |
|--|-----------------|
| Township of Cockburn Island | 1.8288 per cent |
| Township of Rutherford & George Island | 3.3313 per cent |

TABLE 4

TERRITORIAL DISTRICT OF THUNDER BAY

| COLUMN 1 | COLUMN 2 |
|--------------------------------|------------------|
| Township of Neebing | 0.6938 per cent |
| City of Thunder Bay | 82.8506 per cent |
| Township of Gillies | 0.1862 per cent |
| Township of O'Connor | 0.3360 per cent |
| Township of Conmee | 0.3108 per cent |
| Township of Oliver & Paipoonge | 3.2321 per cent |
| Township of Shuniah | 2.7041 per cent |
| Township of Dorion | 0.1914 per cent |
| Township of Red Rock | 1.2769 per cent |
| Township of Nipigon | 0.7816 per cent |
| Township of Schreiber | 0.6055 per cent |
| Township of Terrace Bay | 2.0857 per cent |
| Town of Marathon | 2.4838 per cent |
| Township of Manitouwadge | 0.5975 per cent |
| Town of Greenstone | 1.6640 per cent |

TABLE 5

TERRITORIAL DISTRICT OF TIMISKAMING

| COLUMN 1 | COLUMN 2 |
|-----------------------|------------------|
| Township of Coleman | 1.3139 per cent |
| Town of Latchford | 0.6600 per cent |
| Town of Cobalt | 1.9791 per cent |
| Town of Haileybury | 14.3867 per cent |
| Township of Harris | 1.8734 per cent |
| Township of Dymond | 9.0823 per cent |
| Town of New Liskeard | 20.1780 per cent |
| Township of Hudson | 2.5947 per cent |
| Township of Kerns | 0.8789 per cent |
| Township of Harley | 1.7198 per cent |
| Township of Casey | 0.9419 per cent |
| Township of Brethour | 0.1013 per cent |
| Township of Hilliard | 0.4722 per cent |
| Township of Armstrong | 3.3199 per cent |
| Village of Thornloe | 0.1933 per cent |
| Township of James | 1.3077 per cent |
| Township of Dack | 1.0064 per cent |

| | |
|-------------------------|------------------|
| Town of Charlton | 0.5856 per cent |
| Township of Evanturel | 1.3799 per cent |
| Town of Englehart | 5.1250 per cent |
| Township of Chamberlain | 0.9383 per cent |
| Township of Matachewan | 0.9017 per cent |
| Township of McGarry | 1.2415 per cent |
| Township of Larder Lake | 2.2109 per cent |
| Township of Gauthier | 0.3469 per cent |
| Town of Kirkland Lake | 25.2607 per cent |

TABLE 6

TERRITORIAL DISTRICT OF ALGOMA

| COLUMN 1 | COLUMN 2 |
|--|------------------|
| Algoma District Welfare Administration Board | 25.3257 per cent |
| City of Sault Ste. Marie | 74.6743 per cent |

TABLE 7

TERRITORIAL DISTRICT OF COCHRANE

| COLUMN 1 | COLUMN 2 |
|--|------------------|
| Cochrane District Welfare Administration Board | 39.2331 per cent |
| City of Timmins | 60.7669 per cent |

TABLE 8

TERRITORIAL DISTRICT OF NIPISSING

| COLUMN 1 | COLUMN 2 |
|---|------------------|
| Nipissing District Welfare Administration Board | 25.6729 per cent |
| City of North Bay | 74.3271 per cent |

TABLE 9

COUNTY OF BRANT

| COLUMN 1 | COLUMN 2 |
|-------------------|------------------|
| County of Brant | 28.7927 per cent |
| City of Brantford | 71.2073 per cent |

TABLE 10

COUNTY OF ELGIN

| COLUMN 1 | COLUMN 2 |
|--------------------|------------------|
| County of Elgin | 60.6564 per cent |
| City of St. Thomas | 39.3436 per cent |

TABLE 11

COUNTY OF ESSEX

| COLUMN 1 | COLUMN 2 |
|-------------------|------------------|
| County of Essex | 41.4904 per cent |
| Township of Pelee | 0.2056 per cent |
| City of Windsor | 58.3040 per cent |

TABLE 12

COUNTY OF FRONTENAC

| COLUMN 1 | COLUMN 2 |
|-------------------------------|------------------|
| Frontenac Board of Management | 18.8170 per cent |
| City of Kingston | 81.1830 per cent |

TABLE 13

COUNTY OF GREY

| COLUMN 1 | COLUMN 2 |
|--------------------|------------------|
| County of Grey | 74.2512 per cent |
| City of Owen Sound | 25.7488 per cent |

TABLE 14

COUNTY OF HASTINGS

| COLUMN 1 | COLUMN 2 |
|---------------------|------------------|
| County of Hastings | 26.6142 per cent |
| City of Belleville | 43.5475 per cent |
| City of Quinte West | 29.8383 per cent |

TABLE 15

COUNTY OF LANARK

| COLUMN 1 | COLUMN 2 |
|---------------------|------------------|
| County of Lanark | 85.4875 per cent |
| Town of Smith Falls | 14.5125 per cent |

TABLE 16

COUNTY OF LEEDS & GRENVILLE

| COLUMN 1 | COLUMN 2 |
|-----------------------------|------------------|
| County of Leeds & Grenville | 61.8963 per cent |
| Town of Prescott | 3.6690 per cent |
| City of Brockville | 28.8504 per cent |
| Town of Gananoque | 5.5843 per cent |

TABLE 17

COUNTY OF MIDDLESEX

| COLUMN 1 | COLUMN 2 |
|---------------------|------------------|
| County of Middlesex | 14.1608 per cent |
| City of London | 85.8392 per cent |

TABLE 18

COUNTY OF PERTH

| COLUMN 1 | COLUMN 2 |
|-------------------|------------------|
| County of Perth | 44.6856 per cent |
| City of Stratford | 45.5612 per cent |
| Town of St. Marys | 9.7532 per cent |

TABLE 19

COUNTY OF PETERBOROUGH

| COLUMN 1 | COLUMN 2 |
|------------------------|------------------|
| County of Peterborough | 48.5422 per cent |
| City of Peterborough | 51.4578 per cent |

TABLE 20

COUNTY OF RENFREW

| COLUMN 1 | COLUMN 2 |
|-------------------|------------------|
| County of Renfrew | 83.2529 per cent |
| City of Pembroke | 16.7471 per cent |

TABLE 21

COUNTY OF SIMCOE

| COLUMN 1 | COLUMN 2 |
|------------------|------------------|
| County of Simcoe | 69.3531 per cent |
| City of Barrie | 22.3295 per cent |
| City of Orillia | 8.3174 per cent |

TABLE 22

COUNTY OF STORMONT, DUNDAS & GLENGARRY

| COLUMN 1 | COLUMN 2 |
|--|------------------|
| County of Stormont, Dundas & Glengarry | 54.6884 per cent |
| City of Cornwall | 45.3116 per cent |

TABLE 23

COUNTY OF WELLINGTON

| COLUMN 1 | COLUMN 2 |
|----------------------|------------------|
| County of Wellington | 40.1148 per cent |
| City of Guelph | 59.8852 per cent |

52/97

ONTARIO REGULATION 489/97

made under the

HEALTH PROTECTION AND PROMOTION ACT

Made: December 10, 1997

Filed: December 12, 1997

ALLOCATION OF BOARD OF HEALTH EXPENSES

1. (1) If the obligated municipalities in a health unit fail to agree on the proportion of the expenses referred to in subsection 72 (1) of the Act to be paid by each of them, each obligated municipality in the health unit shall pay the proportion of the expenses that is determined by dividing its population by the sum of the populations of all the obligated municipalities in the health unit.

(2) In this section,

"population" means, with respect to an obligated municipality, the population of the obligated municipality as determined from the most recent enumeration conducted under section 15 of the *Assessment Act*.

2. This Regulation comes into force on January 1, 1998.

52/97

ONTARIO REGULATION 490/97

made under the

HEALTH PROTECTION AND PROMOTION ACT

Made: December 10, 1997

Filed: December 12, 1997

INTERESTS ON DEBTS UNDER SECTION 86.4 OF THE ACT

1. (1) The interest that the Minister may require obligated municipalities to pay under subsection 86.4 (4) of the Act shall be calculated at the rate of 1.5 per cent per month on the unpaid amount for every month or part of a month that the amount remains unpaid.

(2) An obligated municipality shall pay interest required under subsection 86.4 (4) of the Act within 30 days after receiving a written demand from the Minister for payment of the interest.

2. This Regulation comes into force on January 1, 1998.

52/97

ONTARIO REGULATION 491/97
made under the
HEALTH PROTECTION AND PROMOTION ACT

Made: December 10, 1997
Filed: December 12, 1997

Amending Reg. 559 of R.R.O. 1990
(Designation of Municipal Members of Boards of Health)

Note: Regulation 559 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Sections 4, 7, 19 and 24 of Regulation 559 of the Revised Regulations of Ontario, 1990 are revoked.

2. Section 29 of the Regulation is revoked and the following substituted:

CITY OF TORONTO HEALTH UNIT

29. The Board of Health for the City of Toronto Health Unit shall have the number of members established under subsection 46 (2) of the *City of Toronto Act, 1997 (No. 2)*, who shall be appointed in accordance with subsection 46 (3) of that Act.

3. Section 32 of the Regulation is revoked.

4. This Regulation comes into force on January 1, 1998.

52/97

ONTARIO REGULATION 492/97
made under the
AMBULANCE ACT

Made: December 10, 1997
Approved: December 10, 1997
Filed: December 12, 1997

RECOVERY OF COSTS OF DELIVERY AGENTS

1. For the purposes of section 6.9 of the Act, the costs associated with the provision of land ambulance services in a designated area shall be apportioned and paid in accordance with this regulation.

2. In this Regulation,

“weighted assessment” means the assessment for a property multiplied by the tax ratio, established under section 363 of the *Municipal Act*, for the property class the property is in.

3. (1) This section applies to a designated area that consists entirely of two or more local municipalities.

(2) The costs associated with the provision of land ambulance services in the designated area shall be apportioned among its local municipalities,

(a) in accordance with an agreement made among those municipalities; or

(b) where there is no such agreement, based on the proportion that the total weighted assessment of properties situated in each

municipality is to the total weighted assessment of all properties in the designated area.

(3) Each local municipality in the designated area shall pay its share of the costs to the delivery agent.

4. (1) This section applies to a designated area that consists of territory without municipal organization and of one or more local municipality.

(2) The costs associated with the provision of land ambulance services in the designated area shall be apportioned among the municipalities and the territory based on the proportion that the total value of applicable properties situated in each municipality and in the territory is to the total value of all applicable properties in the designated area.

(3) In this section,

“applicable properties” means,

(a) in the case of properties situated in a municipality, properties that are rateable for municipal purposes, and

(b) in the case of properties situated in territory without municipal organization, properties that are rateable for school purposes.

(4) For the purpose of subsection (2), the value of an applicable property shall be determined,

(a) in the case of property in a local municipality, based on the weighted assessment of the property; and

(b) in the case of property in territory without municipal organization, based on the assessment of the property rateable for school purposes.

(5) If the designated area includes more than one local municipality, the local municipalities may enter into an agreement reapportioning among themselves the share of the costs apportioned to them under subsection (2).

(6) Each local municipality in the designated area shall pay to the delivery agent its share of the costs apportioned to it in accordance with subsection (2) or (5), as the case may be.

(7) Despite subsection 6.9 (4) of the Act, the Ministry shall pay to the delivery agent the share of the costs apportioned to the territory without municipal organization in the designated area in accordance with subsection (2).

5. (1) This section applies to a designated area that consists entirely of territory without municipal organization.

(2) Despite subsection 6.9 (4) of the Act, the Ministry shall pay the costs associated with the provision of land ambulance services in the designated area to the delivery agent.

6. This Regulation comes into force on January 1, 1998.

ELIZABETH WITMER
Minister of Health

Dated on December 8, 1997.

52/97

ONTARIO REGULATION 493/97

made under the
**HEALTH PROTECTION AND
PROMOTION ACT**

Made: December 10, 1997

Filed: December 12, 1997

Amending Reg. 553 of R.R.O. 1990
(Areas Comprising Health Units)

Note: Regulation 553 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Schedules 6, 8, 25 and 33 to Regulation 553 of the Revised Regulations of Ontario, 1990 are revoked.

2. Schedule 36 to the Regulation is revoked and the following substituted:

Schedule 36**CITY OF TORONTO HEALTH UNIT**

1. The area described in subsection 46 (4) of the *City of Toronto Act, 1997* (No. 2).

3. Schedule 41 to the Regulation is revoked.

4. This Regulation comes into force on January 1, 1998.

52/97

RÈGLEMENT DE L'ONTARIO 493/97

pris en application de la
**LOI SUR LA PROTECTION ET LA
PROMOTION DE LA SANTÉ**

pris le 10 décembre 1997

déposé le 12 décembre 1997

modifiant le Règl. 553 des R.R.O. de 1990
(Territoires constituant des circonscriptions sanitaires)

Remarque : Le Règlement 553 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. Les annexes 6, 8, 25 et 33 du Règlement 553 des Règlements refondus de l'Ontario de 1990 sont abrogées.

2. L'annexe 36 du Règlement est abrogée et remplacée par ce qui suit :

Annexe 36**CIRCONSCRIPTION SANITAIRE DE LA CITÉ DE TORONTO**

1. Le territoire visé au paragraphe 46 (4) de la *Loi de 1997 sur la cité de Toronto* (n° 2).

3. L'annexe 41 du Règlement est abrogée.

4. Le présent règlement entre en vigueur le 1^{er} janvier 1998.

ONTARIO REGULATION 494/97

made under the
EDUCATION ACT

Made: December 12, 1997

Filed: December 12, 1997

**LEVYING AND COLLECTING BY
ALTERNATIVE BOARDS**

1. The Foleyet Roman Catholic Separate School Board shall perform the duties imposed on The Foleyet District School Area Board by subsection 255 (1), section 256 and paragraph 3 of subsection 257.7 (1) of the Act and subsection 21.1 (1) of the *Provincial Land Tax Act* respecting the levying and collecting of rates, taxes or tax rates, as the case may be, in the area of jurisdiction of The Foleyet District School Area Board.

2. The Gogama Roman Catholic Separate School Board shall perform the duties imposed on The Gogama District School Area Board by subsection 255 (1), section 256 and paragraph 3 of subsection 257.7 (1) of the Act and subsection 21.1 (1) of the *Provincial Land Tax Act* respecting the levying and collecting of rates, taxes or tax rates, as the case may be, in the area of jurisdiction of The Gogama District School Area Board.

3. English-language Separate District School Board No. 55 shall perform the duties imposed by paragraphs 2 and 3 of subsection 257.7 (1) of the Act in the geographic township of Dickens in the Territorial District of Nipissing and the portion of the geographic township of Murchison, in the Territorial District of Nipissing, that is not in The Murchison, Lyell and Sabine District School Area.

4. The James Bay Lowlands Secondary School Board shall perform the duties imposed on The Moose Factory Island District School Area Board by subsection 255 (1), section 256 and paragraph 3 of subsection 257.7 (1) of the Act and subsection 21.1 (1) of the *Provincial Land Tax*

Act respecting the levying and collecting of rates, taxes or tax rates, as the case may be, in the area of jurisdiction of The Moose Factory Island District School Area Board.

5. This Regulation comes into force on the later of January 1, 1998 and the day subsection 113 (2) of the *Education Quality Improvement Act*, 1997 comes into force.

DAVID JOHNSON
Minister of Education and Training

Dated on December 12, 1997.

52/97

ONTARIO REGULATION 495/97
made under the
EDUCATION ACT

Made: December 12, 1997
Filed: December 12, 1997

CURRENT BORROWING LIMITS

1. (1) For the purposes of subsection 243 (4) of the Act, the maximum amount that a board may borrow at any one time during the period specified in subsection (3), together with the total of any similar borrowings that have not been repaid and any accrued interest on those borrowings, shall be determined by the board as follows:

1. Estimate the revenue fund expenditures of the board for the fiscal year January 1, 1998 to August 31, 1998.
2. Subtract, from the amount determined under paragraph 1, the amount of revenue fund revenues of the fiscal year January 1, 1998 to August 31, 1998 already received by the board.

(2) For the purposes of paragraph 1 of subsection (1), revenue fund revenues do not include revenues derivable or derived from the sale of assets, current borrowings or issues of debentures or instruments prescribed under clause 247 (3) (f) of the Act or from a surplus including arrears of taxes and proceeds from the sale of assets.

(3) The period referred to in subsection (1) begins on January 1, 1998 and ends on the earlier of,

- (a) August 31, 1998; and
- (b) the day on which the estimates for the fiscal year ending on August 31, 1998 are adopted.

2. This Regulation comes into force on the day subsection 113 (1) of the *Education Quality Improvement Act*, 1997 comes into force.

DAVID JOHNSON
Minister of Education and Training

Dated on December 12, 1997.

52/97

RÈGLEMENT DE L'ONTARIO 495/97
pris en application de la
LOI SUR L'ÉDUCATION

pris le 12 décembre 1997
déposé le 12 décembre 1997

PLAFONDS DES EMPRUNTS À COURT TERME

1. (1) Pour l'application du paragraphe 243 (4) de la Loi, le plafond des emprunts qu'un conseil peut contracter à un moment donné pendant la période précisée au paragraphe (3) et de la somme des emprunts similaires qui n'ont pas été remboursés et des intérêts courus sur ces emprunts, est déterminé par le conseil de la façon suivante :

1. Évaluer les dépenses du fonds d'administration générale du conseil pour l'exercice qui commence le 1^{er} janvier 1998 et se termine le 31 août 1998.
2. Du montant déterminé aux termes de la disposition 1, soustraire les recettes du fonds d'administration générale déjà rentrées pendant l'exercice qui commence le 1^{er} janvier 1998 et se termine le 31 août 1998.

(2) Pour l'application de la disposition 1 du paragraphe (1), les recettes du fonds d'administration générale ne comprennent pas les recettes pouvant provenir ou provenant de la vente d'éléments d'actif, d'emprunts à court terme ou de l'émission de débentures ou d'instruments prescrits en vertu de l'alinéa 247 (3) f) de la Loi de même que d'un excédent, y compris les arriérés d'impôts et le produit de la vente d'éléments d'actif.

(3) La période visée au paragraphe (1) commence le 1^{er} janvier 1998 et se termine à celle des dates suivantes qui est antérieure à l'autre :

- a) le 31 août 1998;
- b) le jour de l'adoption des prévisions budgétaires pour l'exercice se terminant le 31 août 1998.

2. Le présent règlement entre en vigueur le jour où le paragraphe 113 (1) de la Loi de 1997 sur l'amélioration de la qualité de l'éducation entre en vigueur.

DAVID JOHNSON
Ministre de l'Éducation et de la Formation

Fait le 12 décembre 1997.

ONTARIO REGULATION 496/97

made under the
EDUCATION ACT

Made: December 12, 1997

Filed: December 12, 1997

**RESERVE FOR WORKING
FUNDS LIMIT**

1. The maximum amount that a district school board may provide for a reserve for working funds for the period January 1, 1998 to August 31, 1998 is 5 per cent of the amount estimated by the board as its revenue fund expenditures for the period January 1, 1998 to August 31, 1998.

2. This Regulation comes into force on the day subsection 113 (1) of the *Education Quality Improvement Act, 1997* comes into force.

DAVID JOHNSON

Minister of Education and Training

Dated on December 12, 1997.

52/97

ONTARIO REGULATION 497/97

made under the
EDUCATION ACT

Made: December 12, 1997

Filed: December 12, 1997

DISPOSITION OF SCHOOL SITES**INTERPRETATION**

1. (1) In this Regulation,

"proposal" means a proposal issued by a board under subsection 2 (1).

(2) A reference in this Regulation to a school site or part of a school site is to a school site or part of a school site of a board to which a resolution under clause 194 (3) (a) of the Act applies.

PROPOSAL TO CERTAIN BODIES BEFORE DISPOSITION

2. (1) A board that wishes to sell, lease or otherwise dispose of a school site or part of a school site shall first issue a proposal of the sale or lease of the site or part to each of the following bodies on the same day:

1. If the board issuing the proposal is a public board, the other public board the area of jurisdiction of which includes the site or part.
2. If the board issuing the proposal is a Roman Catholic board, the other Roman Catholic board the area of jurisdiction of which includes the site or part.
3. If the board issuing the proposal provides English-language instruction as defined in subsection 58.1 (1) of the Act, the other board that provides such English-language instruction the area of jurisdiction of which includes the site or part.

RÈGLEMENT DE L'ONTARIO 496/97

pris en application de la
LOI SUR L'ÉDUCATION

pris le 12 décembre 1997

déposé le 12 décembre 1997

**PLAFOND DE LA RÉSERVE POUR
FONDS DE ROULEMENT**

1. Le plafond de la somme qu'un conseil scolaire de district peut affecter à une réserve pour fonds de roulement à l'égard de la période comprise entre le 1^{er} janvier 1998 et le 31 août 1998 correspond à 5 pour cent du montant des dépenses de son fonds d'administration générale pour cette même période, évalué par le conseil.

2. Le présent règlement entre en vigueur le jour où le paragraphe 113 (1) de la *Loi de 1997 sur l'amélioration de la qualité de l'éducation* entre en vigueur.

DAVID JOHNSON

Ministre de l'Éducation et de la Formation

Fait le 12 décembre 1997.

4. If the board issuing the proposal provides French-language instruction as defined in subsection 58.1 (1) of the Act, the other board that provides such French-language instruction the area of jurisdiction of which includes the site or part.
5. The other board the area of jurisdiction of which includes the site or part.
6. If the proposal is made before September 1, 1998, the Ontario Realty Corporation continued under the *Capital Investment Plan Act, 1993*.
7. If the board issuing the proposal is an English-language public board or an English-language Roman Catholic board, the English-language college of applied arts and technology named in Regulation 771 of the Revised Regulations of Ontario, 1990 made under the *Ministry of Colleges and Universities Act* for the area in which the site or part is located.
8. If the board issuing the proposal is a French-language district school board, the French-language college of applied arts and technology named in Regulation 771 of the Revised Regulations of Ontario, 1990 made under the *Ministry of Colleges and Universities Act* for the area in which the site or part is located.
9. The other college of applied arts and technology named in Regulation 771 of the Revised Regulations of Ontario, 1990 made under the *Ministry of Colleges and Universities Act* for the area in which the site or part is located.
10. The university set out in section 9 the head office of which is nearest to the site or part.
11. The municipality in which the site or part is located.
12. The regional municipality, The District Municipality of Muskoka or the County of Oxford, if the site or part is located in a regional municipality, the District Municipality of Muskoka or the County of Oxford.

13. The Crown in right of Ontario.

14. The Crown in right of Canada.

(2) A body mentioned in paragraphs 11 to 14 of subsection (1) to which a proposal is issued may refer the proposal,

(a) if it is a municipality, the regional municipality, The District Municipality of Muskoka or the County of Oxford, to any local board of the municipality, the regional municipality, The District Municipality of Muskoka or the County of Oxford, as the case may be; and

(b) if it is the Crown in right of Ontario or the Crown in right of Canada, to any agency, board or commission of the Crown in right of Ontario or the Crown in right of Canada, as the case may be.

(3) In clause (2) (a),

"local board" has the same meaning as in section 1 of the *Municipal Affairs Act* but does not include a school board.

3. (1) Subject to subsections (2) and (3), a proposal shall propose the sale or lease of a school site or part of a school site at fair market value.

(2) A proposal issued before September 1, 1998 to a body mentioned in paragraphs 1 to 6 of subsection 2 (1) to which a proposal must be issued shall propose the sale or lease of a school site or part of a school site at no cost.

(3) On or after September 1, 1998, a proposal in respect of a school site or part of a school site that provides or is capable of providing pupil accommodation that is issued or referred under section 2 to any of the bodies mentioned in subsection (4) shall propose the sale or lease of the site or part at a price that is the lesser of fair market value and an amount equal to the capacity of the building on the site or part multiplied by the legislative grant for each new pupil place for the board issuing the proposal.

(4) The bodies referred to in subsection (3) are the following:

1. A board mentioned in paragraphs 1 to 5 of subsection 2 (1) to which a proposal must be issued.

2. A school continued or established under section 13 of the Act that offers an elementary school program or a program leading to a secondary school diploma.

3. A publicly-funded care and treatment facility in which a board offers an elementary school program or a program leading to a secondary school diploma.

(5) In subsection (3),

"capacity" means the number of pupil places as determined by the Minister for the purpose of the calculation of legislative grants for new pupil places and, in respect of a school site or part of a school site that provides or is capable of providing accommodation for elementary school pupils, means elementary school capacity and, in respect of a site or part that provides or is capable of providing accommodation for secondary school pupils, means secondary school capacity.

(6) A proposal of the lease of a school site or part of a school site shall specify the term of the lease.

OFFERS AND AGREEMENTS AFTER PROPOSAL ISSUED

4. (1) A board shall not accept any offer to purchase, lease or otherwise acquire a school site or part of a school site that is the subject of a proposal before the expiration of 90 days after the day on which the board issued the proposal.

(2) At the expiration of the 90-day period referred to in subsection (1), the only offer that the board may accept, subject to subsections (4) to (6), is an offer to purchase or lease the school site or part of the school site that,

(a) depending on whether the offer is in response to a proposal referred to in subsection 3 (1), (2) or (3), is at fair market value, no cost or the price determined under subsection 3 (3), as the case may be; and

(b) is made by the body to which the proposal was issued that is mentioned in the paragraph of subsection 2 (1) that has the lowest paragraph number.

(3) For the purpose of clause (2) (b), the body to which the proposal was issued includes the body to which the proposal is referred under subsection 2 (2).

(4) If the body from whom the board may accept an offer and the board disagree on what price is the fair market value of the school site or part of the school site,

(a) they shall attempt, within 30 days of the 90-day period referred to in subsection (1), to negotiate a price that they agree is the fair market value of the site or part and the body shall amend its offer to reflect the agreed price;

(b) if they cannot agree under clause (a) on what price is the fair market value of the site or part, the body making the offer may, at or before the termination of the 30-day period referred to in clause (a),

(i) withdraw its offer; or

(ii) elect to have that price determined through binding arbitration and shall amend its offer according to the price determined by the arbitrator; and

(c) if no price is agreed to under clause (a) at the termination of the 30-day period referred to in clause (a) or the body withdraws its offer or does not elect binding arbitration under clause (b), the board may consider instead the offer of the body to which the proposal was issued that is mentioned in the paragraph of subsection 2 (1) that has the next lowest paragraph number and whose offer complies with subsection (2) except for the requirement under clause (2) (b).

(5) Subsection (4) applies to each subsequent offer that the board considers under clause (4) (c) except that the reference to the 90-day period shall be read as the day on which the board acts under clause (4) (c).

(6) Subsections (4) and (5) apply to,

(a) an offer in response to a proposal referred to in subsection 3 (1); and

(b) an offer in response to a proposal referred to in subsection 3 (3) but do not apply if the offer is for the calculated amount referred to in subsection 3 (3).

5. (1) An agreement for the sale or lease of a school site or part of a school site to a board mentioned in paragraph 1 of subsection 3 (4) resulting from a proposal referred to in subsection 3 (3) shall include a

condition that if the board does not use the site or part to provide accommodation for pupils eligible to be included in the calculation of legislative grants for new pupil places for any period of 12 consecutive months within the 25 years after the sale or the commencement of the lease,

- (a) in the case of a sale, the board shall offer the site or part for sale to the board from which it purchased the site or part at the price the board from which it was purchased sold it to the board, within the time specified in the agreement; and
 - (b) in the case of a lease, the lease is terminated on the day specified in the agreement.
- (2) An offer for the sale of a school site or part of a school site under clause (1) (a) or the resulting sale, or the termination of a lease under clause (1) (b), is not a closing of the school.
- (3) This section applies only where the calculated amount referred to in subsection 3 (3) is less than the fair market value of the school site or part of the school site at the time of the issuance of the proposal.

DISPOSITION TO OTHERS AFTER PROPOSAL PROCESS

6. (1) If a board does not receive an offer from a body to which a proposal is issued or referred under section 2 before the expiration of the 90-day period referred to in subsection 4 (1) that complies with clause 4 (2) (a), the board may, subject to subsections (2) and (3), sell, lease or otherwise dispose of the school site or part of the school site at fair market value to any other body or to any person.

(2) If the proposal referred to in subsection (1) is only for the lease of a school site or part of a school site, the board that issued the proposal may, under subsection (1), lease but not sell or otherwise dispose of the site or part, and the lease shall be for the term specified in the proposal.

(3) A board shall not sell, lease or otherwise dispose of a school site or part of a school site under subsection (1) unless it provides written evidence satisfactory to the Minister that,

- (a) it first issued a proposal of the sale or lease of the site or part to each body to which a proposal must be issued under subsection 2 (1); and
- (b) no offer was received by the board from a body to which the proposal was issued or referred under section 2 before the expiration of the 90-day period referred to in subsection 4 (1) that complies with clause 4 (2) (a).

(4) For the purposes of subsections (1) and (3), the reference to compliance with clause 4 (2) (a) means as determined under subsections 4 (4) and (5) if those provisions were applied in the case of the offer.

MISCELLANEOUS

7. (1) A board shall place the proceeds of every sale, lease or other disposition of a school site or part of a school site in its pupil accommodation reserve fund.

(2) A board may withdraw from its pupil accommodation reserve fund an amount that does not exceed the amount of the proceeds placed

in the fund under subsection (1) and the interest on those proceeds, for the purpose of purchasing, leasing or otherwise acquiring a school site or part of a school site to provide pupil accommodation.

8. If a board does not sell, lease or otherwise dispose of a school site or part of a school site within three years of the expiration of the 90-day period referred to in subsection 4 (1) and the board wishes to sell, lease or otherwise dispose of the site or part, the board shall issue another proposal.

9. The universities referred to in paragraph 10 of subsection 2 (1) are the following:

Brock University

Carleton University

Lakehead University

Laurentian University of Sudbury

McMaster University

Nipissing University

Ontario College of Art

Queen's University at Kingston

Ryerson Polytechnic University

The University of Western Ontario

Trent University

University of Guelph

University of Ottawa/Université d'Ottawa

University of Toronto

University of Waterloo

University of Windsor

Wilfrid Laurier University

York University

10. This Regulation comes into force on the later of January 1, 1998 and the day section 100 of the *Education Quality Improvement Act, 1997* comes into force.

DAVID JOHNSON
Minister of Education and Training

Dated on December 12, 1997.

52/97

ONTARIO REGULATION 498/97
made under the
EDUCATION ACT

Made: December 12, 1997
Filed: December 12, 1997

**ALLOCATIONS TO RESERVE FUND FOR
PERMANENT IMPROVEMENTS**

1. The maximum amount that a district school board may allocate from its revenues to a reserve fund for permanent improvements in a fiscal year shall be determined by the board as follows:

1. Estimate the revenue fund revenues for the board for the fiscal year.
2. Multiply the amount obtained under paragraph 1 by 1 per cent.
3. Add to the amount obtained under paragraph 2 the estimated revenue from the sale or disposal of, or from insurance proceeds in respect of, permanent improvements.

2. This Regulation comes into force on the day subsection 113 (1) of the *Education Quality Improvement Act, 1997* comes into force.

DAVID JOHNSON
Minister of Education and Training

Dated on December 12, 1997.

52/97

RÈGLEMENT DE L'ONTARIO 498/97
pris en application de la
LOI SUR L'ÉDUCATION

pris le 12 décembre 1997
déposé le 12 décembre 1997

**AFFECTATIONS À UN FONDS DE RÉSERVE POUR
AMÉLIORATIONS PERMANENTES**

1. Le plafond de la tranche des recettes qu'un conseil scolaire de district peut affecter au cours d'un exercice à un fonds de réserve pour améliorations permanentes est déterminé par ce dernier de la façon suivante :

1. Évaluer les recettes du fonds d'administration générale du conseil pour l'exercice.
2. Multiplier la somme obtenue aux termes de la disposition 1 par 1 pour cent.
3. Au produit obtenu aux termes de la disposition 2, ajouter les recettes estimatives provenant de la vente ou de la disposition d'améliorations permanentes ou du produit d'assurances sur celles-ci.

2. Le présent règlement entre en vigueur le jour où le paragraphe 113 (1) de la *Loi de 1997 sur l'amélioration de la qualité de l'éducation* entre en vigueur.

DAVID JOHNSON
Ministre de l'Éducation et de la Formation

Fait le 12 décembre 1997.

CORRECTION

Ontario Regulation 435/97 under the *Public Service Act* published in the December 20, 1997 issue of *The Ontario Gazette*.

Paragraph 4 of section 9, as set out in Ontario Regulation 435/97, should have read as follows:

4. If the employment would constitute full-time employment for another person. This paragraph does not apply with respect to a public servant who is employed part-time by the Crown, or is on a leave of absence (as defined in subsection 70 (1) of Regulation 977 of the Revised Regulations of Ontario, 1990) or on secondment.

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Publications under the Regulations Act Publications en vertu de la Loi sur les règlements

1998—01—03

ONTARIO REGULATION 499/97 made under the FARM PRODUCTS MARKETING ACT

Made: November 26, 1997
Filed: December 16, 1997

Amending Reg. 403 of R.R.O. 1990
(Chickens—Plan)

Note: Since January 1, 1997, Regulation 403 has been amended by Ontario Regulations 55/97 and 377/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Paragraphs 4 and 5 of section 7 of the Schedule to Regulation 403 of the Revised Regulations of Ontario, 1990 are revoked and the following substituted:

4. District 4, comprising The Regional Municipality of Haldimand-Norfolk and the Town of Pelham and the Township of Wainfleet in The Regional Municipality of Niagara.

5. District 5, comprising The Regional Municipality of Niagara other than the Town of Pelham and the Township of Wainfleet.

ONTARIO FARM PRODUCTS MARKETING COMMISSION:

JAMES H. WHEELER
Chair

GLORIA MARCO BORYS
Secretary

Dated on November 26, 1997.

1/98

ONTARIO REGULATION 500/97 made under the AMBULANCE ACT

Made: December 10, 1997
Approved: December 17, 1997
Filed: December 17, 1997

Amending Reg. 19 of R.R.O. 1990
(General)

1. Regulation 19 of the Revised Regulations of Ontario, 1990 and Ontario Regulations 596/91, 328/92 and 810/93 are revoked.

2. This Regulation comes into force on January 1, 1998.

ELIZABETH WITMER
Minister of Health

Dated on December 10, 1997.

1/98

RÈGLEMENT DE L'ONTARIO 500/97 pris en application de la LOI SUR LES AMBULANCES

pris le 10 décembre 1997
approuvé le 17 décembre 1997
déposé le 17 décembre 1997

modifiant le Règl. 19 des R.R.O. de 1990
(Dispositions générales)

1. Le Règlement 19 des Règlements refondus de l'Ontario de 1990 ainsi que les Règlements de l'Ontario 596/91, 328/92 et 810/93 sont abrogés.

2. Le présent règlement entre en vigueur le 1^{er} janvier 1998.

ELIZABETH WITMER
Ministre de la Santé

Fait le 10 décembre 1997.

ONTARIO REGULATION 501/97
made under the
AMBULANCE ACT

Made: December 16, 1997
Approved: December 17, 1997
Filed: December 17, 1997

GENERAL

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**PART I
DEFINITIONS**

1. (1) In this Regulation,

"advanced care paramedic" means a paramedic who is authorized by the medical director of a base hospital program to perform all the controlled acts referred to in Schedule 2 to this Regulation;

"aeromedical transportation" means the transportation of a patient by air ambulance;

"air ambulance" means a type of aircraft that is used as an air ambulance by an operator;

"base hospital" means a hospital designated as a base hospital by the Minister in accordance with clause 4 (2) (d) of the Act;

"communications officer" means a person employed in a communication service who receives requests for ambulance services and other

emergency and non-emergency services and causes a response to such requests to occur;

"controlled act" means a controlled act as defined under subsection 27 (2) of the *Regulated Health Professions Act, 1991*;

"critical care paramedic" means a paramedic who is authorized by the medical director of a base hospital program to perform all the controlled acts referred to in Schedule 3 to this Regulation;

"emergency" means a situation where a delay in responding to a call for service could endanger the life, limb or function of a person;

"emergency response vehicle" means a motor vehicle within the meaning of the *Highway Traffic Act*, other than an ambulance, that is used to provide emergency response services and that has been assigned a vehicle number by the Director in accordance with paragraph 1 of subsection 4 (2);

"employee" includes an independent contractor and an employee of an independent contractor;

"first response team" means a team of one or more persons who hold the qualifications described in section 9 and who respond to emergency medical situations at the request of communications officers and provide initial first aid and patient care until an ambulance arrives to transport the patient;

"full-time employee" means an employee who normally works more than 24 hours per week and "full time employment" has a corresponding meaning;

"medical director" means, in relation to a base hospital, a physician designated by the base hospital as medical director of the base hospital program in accordance with clause 16 (2) (a);

"medical transportation service" has the same meaning as defined in section 191.5 of the *Highway Traffic Act*;

"midwife" means a member of the College of Midwives of Ontario;

"nurse" means a member of the College of Nurses of Ontario who is a registered nurse;

"part-time employee" means an employee who normally works 24 hours per week or less and "part-time employment" has a corresponding meaning;

"patient" means a person who,

(a) receives first aid, emergency or other medical care from a first response team member, an emergency medical attendant or paramedic, or

(b) is transported in an ambulance by an emergency medical attendant or paramedic;

"physician" means a member of the College of Physicians and Surgeons of Ontario;

"primary care paramedic" means a paramedic who is authorized by the medical director of a base hospital program to perform one or more of the controlled acts referred to in Schedule 1 to this Regulation;

"public place" means any place, building or public conveyance to which the public has regular access or to which the general public are admitted free or upon payment, but does not include a hospital, nursing home or any other health care facility, or any home or other facility for children or for the aged, or any facility for persons with any mental or physical handicaps, or any private residence or boarding house;

"volunteer" means a person who may receive an honorarium or other compensation but who does not receive a wage or salary.

(2) Any reference in this Regulation to an employee of an ambulance service or to a person who is employed in an ambulance service shall be deemed to be a reference to any person who is employed in the service as well as to any person who acts as a volunteer in the service, unless the provision specifies otherwise.

PART II AMBULANCE SERVICE LICENCES

2. (1) The following classes of licences to operate an ambulance service are prescribed:

1. An emergency medical attendant licence.
2. A primary care paramedic licence.
3. An advanced care paramedic licence.
4. A critical care paramedic licence.

(2) An emergency medical attendant licence shall be issued to the operator of an ambulance service that employs emergency medical attendants only.

(3) A primary care paramedic licence shall be issued to the operator of an ambulance service that employs one or more primary care paramedic but does not employ any advanced care or critical care paramedic.

(4) An advanced care paramedic licence shall be issued to the operator of an ambulance service that employs one or more advanced care paramedic but does not employ any critical care paramedic.

(5) A critical care paramedic licence shall be issued to the operator of an ambulance service that employs one or more critical care paramedic.

3. (1) An application for a licence to operate an ambulance service or for a renewal thereof shall be submitted to the Director.

(2) In an application for a licence to operate an ambulance service or for a renewal thereof, the applicant shall specify the class of licence for which the application is made.

(3) An application to renew a licence to operate an ambulance service shall be made no later than ninety days prior to the date of expiry of the licence.

(4) An application for a licence to operate a land ambulance service, or for a renewal thereof, shall be accompanied by a copy of an agreement between the applicant and a delivery agent or upper-tier municipality, under the terms of which the applicant undertakes to provide land ambulance services in the designated area or municipality, as the case may be.

(5) An agreement referred to in subsection (4) may be conditional on the applicant being issued a licence under the Act.

(6) If an applicant has entered into an agreement referred to in subsection (4) with more than one upper-tier municipality or delivery agent, the applicant shall submit copies of each agreement.

(7) Subsection (4) does not apply to an application for a licence, or for a renewal thereof, made by a delivery agent or upper-tier municipality.

(8) It is a condition of a licence to operate an ambulance service that the operator have the current licence available at the main premises from which the operator operates the service.

(9) An applicant for a licence who has not previously operated an ambulance service in Ontario shall, if the application is approved by the Director, be issued a temporary licence by the Director.

4. (1) A licence to operate an ambulance service is subject to the following conditions:

1. The operator must not transfer any right, title or interest in the ambulance service without the prior written approval of the Director.
2. The person named in the licence as operator does in fact operate the ambulance service.
3. The operator must ensure that every person employed in the service complies with this Regulation.

(2) A licence to operate a land ambulance service is subject to the following conditions, in addition to the conditions set out in subsection (1):

1. The operator must ensure that only the following vehicles are used in the operation of the ambulance service:
 - i. land ambulances or emergency response vehicles whose vehicle number assigned by the Director appears on the operator's licence, or
 - ii. land ambulances or emergency response vehicles that are approved by the Director for regular use in the operation of the ambulance service and have been assigned a vehicle number by the Director.

2. In the case of an operator who is not an upper-tier municipality or a delivery agent, the operator is a party to an agreement with an upper-tier municipality or a delivery agent for the provision of ambulance services.

(3) A licence to operate an air ambulance service is subject to the following conditions, in addition to the conditions set out in subsection (1):

1. The operator must ensure that only the following air ambulances are used in the operation of the ambulance service:
 - i. air ambulances that are identified, based on the registration mark issued by Transport Canada, on the operator's licence, or
 - ii. air ambulances that are approved by the Director for regular use in the operation of the ambulance service.
2. The operator must be a party to an agreement with the Ministry for the provision of air ambulance services.

PART III QUALIFICATIONS OF PERSONS EMPLOYED IN AMBULANCE AND COMMUNICATION SERVICES

AMBULANCE SERVICES

5. (1) The operator of an ambulance service shall ensure that no person is employed in the ambulance service,

- (a) as an emergency medical attendant, unless the person meets the qualifications under sections 6 and 7;

- (b) as a paramedic, unless the person meets the qualifications under sections 6 and 8; or
- (c) as a first response team member, unless the person meets the qualifications under section 9.

(2) The operator of an air ambulance service shall ensure that no person is employed in a patient care capacity in the air ambulance service unless the person meets the qualifications of a full-time paramedic under sections 6 and 8.

6. An emergency medical attendant and paramedic employed in an ambulance service shall have the following qualifications:

1. The person must be at least eighteen years of age.
2. The person must hold an Ontario secondary school graduation diploma or have academic qualifications approved as equivalent by the Director.
3. The person must be able to read, write and speak the English language fluently.
4. The person must hold a valid driver's licence issued under the *Highway Traffic Act* that authorizes the person to drive an ambulance.
5. The person must be free from all communicable diseases referred to in Ontario Regulation 558/91 (Specification of Communicable Diseases).
6. The person must be the holder of a valid certificate signed by a physician that states that the person is immunized against tetanus, diphtheria, hepatitis B and poliomyelitis or that such immunization is medically contra-indicated.
7. The person has not received during the year immediately prior to the date he or she commenced employment, and does not receive during his or her employment, six or more demerit points recorded on his or her record by the Registrar of Motor Vehicles under the *Highway Traffic Act*.
8. The person has maintained during the two years immediately prior to the date he or she commenced employment, and continues to maintain during his or her employment, a valid driver's licence under the *Highway Traffic Act*.
9. The person has not, at any time during the three years immediately prior to the date the person commenced employment or during his or her employment, been prohibited under the *Criminal Code* (Canada) from driving a motor vehicle in Canada.
10. The person has not been convicted of any crime involving moral turpitude for which the person has not been pardoned.
11. The person has successfully completed a radio-telephone operator's training course approved by the Director.
12. The person is, at the time he or she commences employment and every 12 months thereafter, certified in cardiopulmonary resuscitation to the Basic Rescuer level by the Ontario Heart and Stroke Foundation or in a course that is approved as equivalent by the Director.
13. The person has been issued a photo identification card and provider number by the Director.

7. (1) An emergency medical attendant employed in an ambulance service as a full-time employee must have the following qualifications, in addition to the qualifications set out in section 6:

1. The person has successfully completed an ambulance and emergency care program or paramedic program provided by a College of Applied Arts and Technology and approved by the Director or has experience and qualifications that are approved as equivalent by the Director.
2. The person has obtained a pass standing in an examination on emergency medical care set or approved by the Director.
3. The person has obtained an emergency medical care assistant certification or an advanced emergency medical care assistant certification from the Director.

(2) Despite subsection (1), a person who has successfully completed a program referred to in paragraph 1 of subsection (1) but who does not meet the qualifications referred to in paragraphs 2 and 3 of subsection (1) may be employed as a full-time emergency medical attendant in an ambulance service for a period of 150 consecutive days following completion of the program.

(3) Despite subsection (1), a person who was employed as a full-time emergency medical attendant in an ambulance service immediately before August 1, 1975 may continue to be employed as a full-time emergency medical attendant in that ambulance service if, in addition to having the qualifications set out in section 6, the person has the following qualifications:

1. The person is the holder of a valid Fundamentals of Casualty Care certificate issued by the Director.
2. The person is the holder of a valid standard first aid certificate issued by a training institute approved by the Director or of a certificate approved as equivalent by the Director.

(4) Subsection (3) applies so as to allow an emergency medical attendant referred to in that subsection to be employed by an operator to whom the ambulance service in which the person was employed immediately before August 1, 1975 is transferred, or by any succeeding operator.

(5) An emergency medical attendant employed in an ambulance service as a part-time employee or engaged as a volunteer in an ambulance service must have the following qualifications in addition to the qualifications set out in section 6:

1. The person is the holder of a valid standard first aid certificate issued by a training institute approved by the Director or has qualifications approved as equivalent by the Director.
2. The person has successfully completed an emergency first response course approved by the Director or a course that is approved as equivalent by the Director.

(6) Despite section 6 and subsection (5),

- (a) a person who does not meet the qualifications described in paragraph 7, 8 or 9 of section 6 may be engaged as a volunteer emergency medical attendant so long as the person is not permitted to drive an ambulance or an emergency response vehicle; and
- (b) a person who does not meet the qualification described in paragraph 4 of section 6 may be engaged as a volunteer emergency medical attendant so long as the person is not permitted to drive an ambulance.

8. (1) A primary care paramedic employed in an ambulance service as a full-time employee must have the following qualifications, in addition to the qualifications set out in section 6:

1. The person shall have all the qualifications of a full-time emergency medical attendant described in subsection 7 (1) or (3).

2. The person shall hold a valid document signed by the medical director of a base hospital program that authorizes the person to perform one or more of the controlled acts listed in Schedule 1 to this Regulation.

(2) An advanced care paramedic employed in an ambulance service as a part-time or full-time employee or engaged as a volunteer must have the following qualifications, in addition to the qualifications set out in section 6:

1. The person shall have all the qualifications of a full-time emergency medical attendant described in subsection 7 (1).
2. The person shall have successfully completed an advanced care paramedic program approved by the Director.
3. The person shall have obtained a pass standing in an advanced care paramedic examination set or approved by the Director.
4. The person shall hold a valid document signed by the medical director of a base hospital program that authorizes the person to perform all of the controlled acts listed in Schedule 2 to this Regulation.

(3) A critical care paramedic employed in an ambulance service as a part-time or full-time employee or engaged as a volunteer must have the following qualifications, in addition to the qualifications set out in section 6:

1. The person shall have all the qualifications of a full-time emergency medical attendant described in subsection 7 (1) and all the qualifications of an advanced care paramedic described in paragraphs 1, 2 and 3 of subsection (2).
2. The person shall have successfully completed a critical care paramedic program approved by the Director.
3. The person shall have obtained a pass standing in a critical care paramedic examination set or approved by the Director.
4. The person shall hold a valid document signed by the medical director of a base hospital program that authorizes the person to perform all of the controlled acts listed in Schedule 3 to the Regulation.

(4) In addition to having all the qualifications set out in section 6 and in subsection (1), (2) or (3), as the case may be, a paramedic employed as a part-time or full-time employee or engaged as a volunteer in an air ambulance service shall,

- (a) have obtained a pass standing in an aeromedical patient care examination set or approved by the Director;
- (b) have successfully completed a transportation of dangerous goods by air course approved by the Director;
- (c) have successfully completed a cabin attendant course approved by the Director;
- (d) on commencing employment and, every 24 months thereafter, or on the request of the Director, after submitting to a flight medical examination performed by a physician approved by Transport Canada, be declared medically fit for employment as a paramedic in an air ambulance service; and

- (e) hold a valid document signed by the operator of an air ambulance service stating that the person has successfully completed training on each type of aircraft in which the paramedic is required to work.

(5) A person who was employed as a cabin medical attendant on or before December 31, 1997 and who does not have the qualifications referred to in subsection (4) may continue to be employed as a cabin medical attendant in an air ambulance service until December 31, 1999.

(6) A primary care paramedic employed as a part-time employee or engaged as a volunteer in a land ambulance service must have the qualifications referred to in one of the following paragraphs, in addition to the qualifications set out in section 6:

1. The person,
 - (i) has the qualifications of a part-time or volunteer emergency medical attendant set out in subsection 7 (5), and
 - (ii) holds a valid document signed by the medical director of a base hospital program that authorizes the person to perform semi-automated external cardiac defibrillation.
2. The person,
 - (i) holds a valid Fundamentals of Casualty Care certificate issued by the Director or has qualifications approved as equivalent by the Director,
 - (ii) holds a valid standard first aid certificate issued by a training institute approved by the Director or has qualifications approved as equivalent by the Director, and
 - (iii) holds a valid document signed by the medical director of a base hospital program that authorizes the person to perform one or more of the controlled acts that a full-time primary care paramedic may perform and that are listed in Schedule 1 to this Regulation.

(7) Despite section 6 and subsection (6),

- (a) a person who does not meet one of the qualifications described in paragraph 7, 8 or 9 of section 6 may be engaged as a volunteer paramedic so long as the person is not permitted to drive an ambulance or an emergency response vehicle; and
- (b) a person who does not meet the qualification described in paragraph 4 of section 6 may be engaged as a volunteer paramedic so long as the person is not permitted to drive an ambulance.

9. The following are the qualifications of a first response team member:

1. The person must be the holder of a valid standard first aid certificate issued by a training institute approved by the Director or hold qualifications approved as equivalent by the Director.
2. The person must have successfully completed an emergency first response course approved by the Director or a course that is approved as equivalent by the Director.
3. The person must hold a valid class "G" driver's licence issued under the *Highway Traffic Act* that authorizes the person to drive a motor vehicle.
4. The person must hold the qualifications described in paragraphs 7, 8 and 9 of section 6 if, when acting as a first response team member, the person is required to drive.

COMMUNICATION SERVICES

10. (1) A person who operates a communication service shall ensure that no person is employed as a communications officer in the service unless the person has the following qualifications:

1. The person must be at least eighteen years of age.
2. The person must hold an Ontario secondary school graduation diploma or have academic qualifications approved as equivalent by the Director.
3. The person must be able to read, write and speak the English language fluently.
4. The person is the holder of a valid standard first aid certificate issued by a training institute approved by the Director or hold qualifications approved as equivalent by the Director.
5. The person has successfully completed a radio-telephone operator's training course approved by the Director.
6. The person has been issued a photo identification card and provider number by the Director.

(2) In addition to the qualifications set out in subsection (1), a communications officer who commences full-time or part-time employment after January 1, 1999 shall have,

- (a) successfully completed a communications officer training program approved by the Director; and
- (b) obtained a pass standing in an emergency communications examination set or approved by the Director.

**PART IV
CONTINUING EDUCATION AND TRAINING
OF PERSONS EMPLOYED IN
AMBULANCE AND COMMUNICATION SERVICES**

11. An operator shall, as a condition of the operator's licence, ensure that every emergency medical attendant or paramedic employed in the ambulance service attend training courses and continuing education courses approved by the Director.

12. (1) An operator shall, as a condition of the operator's licence, ensure that every emergency medical attendant and paramedic employed in the operator's ambulance service is adequately trained in the use of communications equipment, patient care equipment and other equipment used in the provision of ambulance services.

(2) A person who operates a communication service shall ensure that every communications officer employed in the person's service is adequately trained in the use of the communications equipment.

(3) An operator shall, as a condition of the operator's licence, ensure that an attendant or paramedic who is employed in the operator's ambulance service receives adequate remedial training where the operator receives notice under subsection 16 (3) from the medical director of a base hospital program that,

- (a) the emergency medical attendant or paramedic has a deficiency in his or her patient care skills; or
- (b) the medical director is suspending or revoking the authorization given to a paramedic to perform one or more controlled acts.

(4) For the purposes of this section, a person's training is adequate if,

(a) in the case of an emergency medical attendant or a paramedic, it is sufficient to enable the person to perform his or her responsibilities in a manner that is consistent with the standards set out in this Regulation and that will ensure the safety and proper care of patients; and

(b) in the case of a communications officer, it is sufficient to enable the officer to perform his or her responsibilities so as to ensure the efficient, accurate and timely delivery of ambulance services.

(5) An operator shall, as a condition of the operator's licence, ensure that an emergency medical attendant or paramedic who is employed in the operator's ambulance service receives such training with respect to patient care as is necessary in order to comply with the recommendations made in reports made under clause 16 (2) (e) by the medical director of a base hospital program.

13. (1) An operator shall, as a condition of the operator's licence, participate in a quality assurance program established by the Director.

(2) The basic components of the quality assurance program referred to in subsection (1) shall include,

- (a) a review of the operation of the operator's ambulance service by a group of persons who work, or have worked, in the area of ambulance services and who are selected by the Director to ensure that the operator is in compliance with the Act and this Regulation;
- (b) discussions between the operator and the program representatives of any deficiencies or weaknesses in the operator's service identified during the review and formulation of recommendations; and
- (c) implementation of the recommendations formulated under clause (b).

14. (1) The Director may direct any emergency medical attendant, paramedic, first response team member or communications officer to take a re-qualifying examination set by the Director once every three years.

(2) Despite subsection (1), the Director may direct any emergency medical attendant, paramedic, first response team member or communications officer to take a re-qualifying examination set by the Director at any time if he or she has reasonable grounds to believe that the person may not be competent to perform, with reasonable skill, the duties normally required for his or her position.

(3) The Director shall give a person written notice that the person is required to take a re-qualifying examination under subsection (1) or (2) and shall specify in the notice the date, time and location of the examination.

(4) The notice shall be given at least 60 days before the day of the examination.

(5) The Director shall give notice of the next examination in accordance with subsection (3) and (4) to any person who makes a written request to the Director that the person be given notice of the next examination date.

(6) Every person who is directed under this section to take a re-qualifying examination shall attend at the location, and at the time, specified in the Director's notice and shall take such examination.

(7) A person who fails to take a re-qualifying examination as directed under this section or who does not obtain a pass standing in a re-qualifying examination shall not be qualified to be employed in an ambulance service or communication service until the person successfully completes an examination approved by the Director.

**PART V
STANDARD OF CARE FOR EMERGENCY MEDICAL
ATTENDANTS AND PARAMEDICS**

15. An emergency medical attendant and paramedic shall provide ambulance services to a patient in accordance with the patient care standards and procedures set out in the document entitled "Basic Life Support Patient Care Standards (Version 1.0)" dated October, 1995 and available from the Ministry of Health.

**PART VI
FUNCTIONS AND DUTIES
OF BASE HOSPITALS**

16. (1) In this section,

"jurisdiction" means, with respect to a base hospital, the region or district established by the Director for the purposes of the base hospital under clause 4 (2) (c) of the Act.

(2) A base hospital shall,

(a) appoint, as medical director of the base hospital program, a physician who holds a specialty qualification in emergency medicine from the Royal College of Physicians of Canada, the Canadian College of Family Practice or the American College of Emergency Physicians or who holds qualifications approved as equivalent by the Director;

(b) provide medical direction and training to all emergency medical attendants and paramedics employed by an operator that provides ambulance services within the base hospital's jurisdiction;

(c) monitor the quality of patient care provided by the emergency medical attendants and paramedics referred to in clause (b);

(d) delegate controlled acts to paramedics employed by an operator that provides ambulance services within the base hospital's jurisdiction;

(e) issue regular reports to the attendants, paramedics and their operator respecting the quality of care given to patients by the emergency medical attendants and paramedics employed by an operator that provides ambulance services within the base hospital's jurisdiction; and

(f) obtain and maintain a contract of general liability insurance in the minimum amount of \$2,000,000.00 in respect of any one incident.

(3) The medical director of a base hospital program shall immediately notify an emergency medical attendant or paramedic, as the case may be, and the operator in whose service the attendant or paramedic is employed if,

(a) the medical director determines that the patient care skills of an emergency medical attendant or paramedic are deficient; or

(b) the medical director decides to suspend or revoke the authorization given to a paramedic to perform one or more controlled acts.

(4) A base hospital shall participate in a quality assurance program established by the Director.

(5) The basic components of the quality assurance program referred to in subsection (4) shall include,

(a) a review of the operation of the base hospital by a group of persons who work, or have worked, in base hospitals and who

are selected by the Director to ensure that the base hospital is in compliance with the Act and this Regulation;

(b) discussions between the base hospital staff and the program representatives of any deficiencies or weaknesses in the base hospital identified during the review and formulation of recommendations; and

(c) implementation of the recommendations formulated under clause (b).

(6) Part IX (Accounting system and reports) applies to a base hospital as though it were an applicable enterprise.

**PART VII
STANDARDS, MAINTENANCE AND REPAIRS OF
AMBULANCES, EMERGENCY RESPONSE VEHICLES
AND EQUIPMENT**

STANDARDS

17. (1) The operator of a land ambulance service shall ensure that every land ambulance and emergency response vehicle used in the ambulance service,

(a) is constructed and equipped in accordance with the standards contained in the document entitled "Ontario Provincial Land Ambulance and Emergency Response Vehicle Standard (version 1.0)", published by the Ministry of Health and dated December 12, 1997; and

(b) contains the accessory and patient care equipment referred to in Part A of the document entitled "Provincial Equipment Standards for Ontario Ambulance Services (version 1.0)", published by the Ministry of Health and dated December 12, 1997.

(2) The operator of a land ambulance service shall ensure that the accessory and patient care equipment contained in a land ambulance and emergency response vehicle in accordance with clause (1) (b) meets, where applicable, the standards set out in Part B of the document referred to in clause (1) (b).

18. (1) The operator of an air ambulance service shall ensure that an air ambulance that is used in the operator's service,

(a) meets the standards specified in the *Aeronautics Act* (Canada) and in the regulations made under that Act; and

(b) contains only,

(i) the accessory and patient care equipment referred to in Part A of the document entitled "Provincial Equipment Standards for Ontario Ambulance Services (version 1.0)", published by the Ministry of Health and dated December 12, 1997,

(ii) a specific item of patient care equipment that a physician, midwife or nurse orders be transported to or with a patient in a specific situation, and

(iii) such other accessory and patient care equipment as may be approved for the operator by the Director under subsection (2).

(2) The operator of an air ambulance service shall ensure that the accessory and patient care equipment contained in an air ambulance in accordance with subclause (1) (b) (i) meets, where applicable, the standards set out in Part B of the document referred to in subclause (1) (b) (i).

(3) The Director may permit an operator to carry specified accessory or patient care equipment in an air ambulance in addition to the

equipment required under subclauses (1) (b) (i) and (ii) if, in the opinion of the Director, the equipment is necessary in order to ensure the proper care of patients in the area serviced by the ambulance service, taking into consideration such matters as,

- (a) the health care facilities and resources available in the area;
- (b) the geographic and meteorological characteristics of the area; and
- (c) the needs of individual patients.

(4) Despite clause (1) (b), the Director may, for a particular call, give the operator of an air ambulance service a written authorization to use an air ambulance that does not contain an item of accessory or patient care equipment otherwise required under this section if,

- (a) an air ambulance that contains all the equipment otherwise required is not available; or
- (b) in the opinion of the Director, the circumstances of the call require the use of a type of aircraft that is different than the air ambulances for which the operator has been licensed.

MAINTENANCE AND REPAIR

19. (1) An operator shall maintain every land ambulance, air ambulance and emergency response vehicle used in the operator's ambulance service and each item of equipment required by section 17 or 18,

- (a) in a safe mechanical condition;
- (b) in a clean and sanitary condition; and
- (c) in proper working order.

(2) The operator of a land ambulance service shall retain records relating to the repair and maintenance of vehicles for a period of three years.

(3) If an upper-tier municipality assumes responsibility for the provision of land ambulance services in 1998 or 1999 in accordance with subsection 6 (4) of the Act, an operator who provides land ambulance services in that municipality shall, as a condition of the operator's licence, provide the municipality with records relating to the repair and maintenance of vehicles or such other evidence as may be required to demonstrate that the vehicles meet the requirements of subsection (1).

20. The operator of an air ambulance service shall maintain a certificate of air worthiness in accordance with the *Aeronautics Act* (Canada) and the regulations made under that Act for each air ambulance that is used by the operator to provide air ambulance services.

21. At the request of the communication service that normally directs the ambulances or emergency response vehicles used in a land ambulance service, the operator of the service shall make the vehicles available to a person specified in the request in order that the communications equipment installed in or assigned to the vehicles may be inspected, repaired, maintained or upgraded.

22. The operator of an air ambulance service shall ensure that all communications equipment installed in air ambulances used in the operator's service is maintained in accordance with the requirements specified in the *Aeronautics Act* (Canada) and the regulations made under that Act.

23. (1) As soon as practicable after an ambulance returns from a call, the emergency medical attendants and paramedics who responded to the call shall ensure that,

- (a) any equipment that was used during the call and that requires sterilization is sterilized;
- (b) any equipment that was used during the call and that requires disinfection is disinfected;
- (c) the patient compartment of the ambulance and the equipment contained in the compartment are properly cleaned;
- (d) the ambulance and, where applicable, emergency response vehicle is restocked with patient care and accessory equipment in accordance with the requirements under section 17 or 18, as applicable; and
- (e) all accessory and patient care equipment is safely and properly secured in the ambulance or emergency response vehicle.

(2) Every operator shall establish procedures relating to the sterilization and disinfection of equipment used in the provision of ambulance services.

PART VIII REPORTS AND RECORDS BY AMBULANCE AND COMMUNICATION SERVICES

EMPLOYEE REGISTER

24. (1) An operator and a person who operates a communication service shall establish and maintain a register setting out the qualifications of each emergency medical attendant, paramedic, first response team member and communications officer employed by the operator or person.

(2) The register referred to in subsection (1) shall include,

- (a) the driver's licence number of each employee who is required to hold a valid driver's licence under Part III;
- (b) evidence of certification from a medical director of a base hospital program, where applicable; and
- (c) the Ontario ambulance system identification number assigned to the employee by the Director.

INCIDENTS REPORTS

25. (1) In this section,

"operator" includes a person who operates a communication service.

(2) Every operator shall ensure that an incident report is made respecting,

- (a) each complaint relating to the operator's service received by the operator or on the operator's behalf;
- (b) each investigation carried out by the operator or under the operator's authority relating to the operator's service; and
- (c) every unusual occurrence including,
 - (i) unusual response or service delays,
 - (ii) suspected criminal circumstances or events,
 - (iii) equipment deficiencies,
 - (iv) interference in the performance of ambulance service, encountered or experienced by the operator or any of the operator's employees in the course of providing ambulance services,

(v) any circumstance resulting in harm to a patient, ambulance crew member or any other person being transported in an ambulance or emergency response vehicle, and

(vi) any circumstance which results in a risk to, or the endangering of, the safety of a patient, ambulance crew member, or any other person being transported in an ambulance or emergency response vehicle.

(3) Every operator shall retain a copy of each incident report, whether or not it is an incident report required to be made under this section, for a period of three years after the date of the last notation made in the report.

CALL REPORTS AND COLLISION REPORTS

26. (1) A communications officer shall, on receiving a call for ambulance services or on being notified of the movement of an ambulance or emergency response vehicle, record such information in a form approved by the Director.

(2) The operator of a communication service shall ensure that a copy of the record referred to in subsection (1) is forwarded to the Director forthwith.

27. (1) An emergency medical attendant or paramedic shall complete an ambulance call report whenever a response to a request for ambulance service is initiated.

(2) The ambulance call report shall be completed with respect to each person to whom patient care is provided, regardless of whether the patient is transported by ambulance.

(3) An ambulance call report shall be in the form provided by the Director.

(4) The emergency medical attendant or paramedic who completes the ambulance call report shall distribute copies of the report to the operator and, where required by the directives on the ambulance call report form, to the sending hospital, the receiving hospital or the base hospital.

(5) An operator shall retain an ambulance call report for a period of three years from the date the report was completed.

28. If a driver of a land ambulance or emergency response vehicle is directly or indirectly involved in a collision while in charge of the ambulance or emergency response vehicle, the driver shall immediately notify the communication service that normally directs the movements of the ambulance or emergency response vehicle.

PART IX ACCOUNTING SYSTEM AND REPORTS BY AMBULANCE AND COMMUNICATION SERVICES

29. In this Part,

"applicable enterprise" means a communication service and any land ambulance service that receives funds from the Province of Ontario on an ongoing basis.

30. (1) Every applicable enterprise shall,

(a) maintain current financial records in accordance with generally accepted accounting principles;

(b) prepare annual financial statements on forms provided by the Ministry at the end of each fiscal year; and

(c) cause audited financial statements to be prepared annually by a public accountant licensed under the *Public Accountancy Act*.

(2) If an operator is licensed to operate two or more ambulance services that are required to prepare annual financial statements under clause (1) (b), the operator shall ensure that separate financial statements are prepared for each service.

(3) If a person who operates an applicable enterprise, other than a person referred to in subsection (4), carries on any other business enterprise, the person shall,

(a) keep separate personnel, equipment and supply records and books of account and accounting records in respect of the applicable enterprise and shall maintain a current record of daily hours of work in the applicable enterprise performed by each employee; and

(b) cause the annual financial statements referred to in clause (1) (b) to be separate from those of the other business enterprise.

(4) Subsection (3) does not apply to a municipality or a public hospital.

31. Every applicable enterprise shall, within 90 days after the end of each fiscal year, submit to the Director a copy of the annual financial statements prepared under clause 30 (1) (b), together with a copy of the audited financial statements prepared under clause 30 (1) (c).

32. (1) Where an applicable enterprise receives funds from the Province of Ontario for the purposes of the enterprise, it shall use such funds only for such purposes.

(2) Where the Province of Ontario provides funds to an applicable enterprise or to an air ambulance service and directs that such funds be used for a particular purpose, the person who operates the enterprise or service shall use such funds only for the purpose so specified.

(3) Where the Province of Ontario provides equipment, supplies or other tangible property to an applicable enterprise or to an air ambulance service, the person who operates the enterprise or service shall use such property only for purposes directly related to the enterprise or service, unless the Director has approved some other disposition of the property.

(4) Where funds provided by the Province of Ontario are used by an applicable enterprise or air ambulance service to acquire equipment, supplies or any other property, the person who operates the enterprise or service shall use the acquired property only for purposes directly related to the enterprise or service, unless the Director has approved some other disposition of the property.

33. If an upper-tier municipality assumes responsibility for ensuring the provision of land ambulance services in 1998 or 1999 in accordance with subsection 6 (4) of the Act, an operator who provides land ambulance services in that municipality shall, at the request of the Director, immediately deliver to the Director closing financial statements for the ambulance service on forms provided by the Ministry, together with a copy of audited financial statements referred to in clause 30 (1) (c).

PART X INSURANCE

34. (1) The operator of a land ambulance service that receives funds from the Province of Ontario on an ongoing basis and that uses or permits the use of a land ambulance or emergency response vehicle that is not owned by the Province of Ontario shall obtain and maintain in good standing, in respect of the ambulance or emergency response vehicle, a contract of automobile insurance under Part VI of the *Insurance Act* under which,

- (a) the operator and every driver are insured;
- (b) the liability of the insurer is at least \$2,000,000.00 in respect of any one accident;
- (c) the insurer is liable for loss or damage resulting from bodily injury to, or the death of, any passenger being carried in or upon or entering or getting onto or alighting from the ambulance or emergency response vehicle;
- (d) the insurer is liable for loss of, or damage to, the property of a passenger that was carried in or upon the ambulance or emergency response vehicle; and
- (e) in respect of any insured ambulance, the insurer is liable while the ambulance is used for carrying passengers for compensation or hire.

(2) A person who operates a communication service and the operator of a land ambulance service that receives funds from the Province of Ontario on an ongoing basis shall obtain and maintain a contract of general liability insurance in the minimum amount of \$2,000,000.00 in respect of any one incident.

(3) The operator of an air ambulance service shall meet the insurance standards set out in the document entitled "Standards and Requirements for Ontario Ministry of Health Approved Commercial Air Carriers", dated January 1, 1995 and available from the Ministry of Health.

PART XI MANAGEMENT AND OPERATION OF AMBULANCE AND COMMUNICATION SERVICES

AMBULANCE SERVICES

35. (1) The operator of a land ambulance service shall ensure that a land ambulance that responds to a call for ambulance services is staffed with a crew of at least two persons each of whom shall have the qualifications of an emergency medical attendant and,

- (a) in the case of an operator who holds a primary care paramedic licence, at least one of whom is a primary care paramedic;
- (b) in the case of an operator who holds an advanced care paramedic licence, at least one of whom is an advanced care paramedic; and
- (c) in the case of an operator who holds a critical care paramedic licence, at least one of whom is a critical care paramedic.

(2) The operator of a land ambulance service shall ensure that an emergency response vehicle that responds to a call for ambulance services is staffed with at least one emergency medical attendant.

(3) The operator of an air ambulance service shall ensure that an air ambulance that responds to a call for ambulance services is, unless authorized otherwise by the communication service that normally directs the movement of the operator's air ambulance, staffed with,

- (a) in the case of an operator who holds a primary care paramedic licence, at least one primary care paramedic;
- (b) in the case of an operator who holds an advanced care paramedic licence, at least one advanced care paramedic; and
- (c) in the case of an operator who holds a critical care paramedic licence, at least one critical care paramedic.

(4) An operator shall ensure that there is always on duty the number of staff required under subsections (1), (2) and (3) in respect of each ambulance that is required to be available for ambulance services.

36. An emergency medical attendant, paramedic or first response team member shall at all times when on duty carry on his or her person the photo identification card and provider number referred to in paragraph 13 of section 6.

37. No person shall smoke any cigar, cigarette, tobacco or other substance while in an ambulance or emergency response vehicle.

38. (1) No emergency medical attendant or paramedic shall,

- (a) while on duty, take, consume or have in his or her possession any liquor within the meaning of the *Liquor Control Act*, or any drug which could impair his or her ability to function as an emergency medical attendant or paramedic; or
- (b) report for duty while under the influence of any liquor within the meaning of the *Liquor Control Act*, or any drug which could impair his or her ability to function as an emergency medical attendant or paramedic.

(2) No operator shall permit an emergency medical attendant or paramedic to respond to a call for ambulance services while the member is apparently under the influence of liquor or drugs or suffering from the effects of liquor or drugs.

39. (1) Each member of an ambulance crew shall ensure that,

- (a) subject to subsection (2), every patient and every other passenger transported in a sitting position in an ambulance wears a safety seat belt or other restraint providing an equivalent degree of safety;
- (b) every patient transported in a stretcher in an ambulance is adequately secured to the stretcher and the stretcher is firmly secured in the ambulance; and
- (c) every infant transported in an incubator in an ambulance is firmly secured in the ambulance.

(2) Clause (1) (a) does not apply with respect to patients or persons transported in an air ambulance unless the captain of the air ambulance so directs.

40. (1) An operator, emergency medical attendant or paramedic shall not transport or permit the transportation in an ambulance of the remains of any person who has been declared dead by a physician or who is obviously dead by reason of decapitation, transection, decomposition or otherwise unless,

- (a) the remains of the person are in a public place and it is in the public interest that the remains be removed;
- (b) arrangements are made to ensure that an alternative ambulance is readily available for ambulance services during the time that the remains are being transported; and
- (c) no patient is transported in the ambulance at the same time as the remains.

(2) Despite subsection (1), an ambulance may be used to transport human remains for the purpose of organ transplantation on the order of a physician where the order is acknowledged by a physician at the hospital where the tissue is being delivered.

(3) The ambulance crew attending the human remains referred to in subsection (2) shall care for the human remains as directed by the physician who ordered the transportation.

(4) Subsection (1) does not apply so as to prevent the transportation of a patient who was alive when transportation began and is declared dead by a physician while the ambulance is en route.

41. (1) No operator of an ambulance service shall use or permit the use of an ambulance or emergency response vehicle for any purpose other than,

(a) a purpose directly related to the provision of ambulance services; or

(b) the transportation of the remains or a person in accordance with section 40.

(2) Subsection (1) does not apply to the operator of an air ambulance service who has entered into an agreement with the Director that specifies that the operator will provide air ambulance services only on an as needed basis.

42. (1) The operator of an ambulance service in an upper-tier municipality or designated area shall ensure that, in 90 per cent of the priority 4 (emergency) calls received in a twelve month period, the response time performance of the operator's ambulance service is equal to the response time performance set by the person who operated the service in 1996.

(2) The response time performance of every operator in the province in 1996 shall be available from the Director.

43. An operator shall ensure, as a condition of the operator's licence, that a person enrolled in a program referred to in paragraph 1 of subsection 7 (1) who is attending a patient of the operator's ambulance service perform only the controlled acts that the person has been authorized by a medical director of a base hospital program to perform under the direct supervision of a paramedic.

44. (1) An operator shall ensure, as a condition of the operator's licence, that if a person referred to in subsection (2) attends, assists or renders first aid or emergency medical care to a patient of the operator's ambulance service,

(a) the person does so under the direction of an emergency medical attendant, paramedic or first response team member;

(b) the ambulance that is on call when the person renders assistance is staffed in accordance with section 35;

(c) the person is free from all communicable diseases referred to in Ontario Regulation 558/91 (Specification of Communicable Diseases); and

(d) the person is the holder of a subsisting certificate signed by a physician that states that the person is immunized against tetanus, diphtheria, hepatitis B and poliomyelitis or that immunization thereto is medically contra-indicated.

(2) Subsection (1) applies to a person registered as a student in nursing, medicine, psychology, respiratory therapy, midwifery or a paramedic program at one of the following institutions:

1. A provincially assisted university.

2. A College of Applied Arts and Technology.

3. An institution approved by the Director for the purpose of this section.

45. (1) The operator of a land ambulance service shall not refuse, and shall not permit an employee to refuse, to provide ambulance services or emergency response services unless directed or permitted to do so by a communications officer.

(2) An operator shall ensure that every emergency medical attendant or paramedic employed by the operator shall comply with every direction and instruction issued by a communications officer with respect to the assignment of calls to ambulances and emergency response vehicles.

(3) The operator of an ambulance service shall ensure that,

(a) the communication service that normally directs the movement of the ambulances and emergency response vehicles in use in the ambulance service is always informed as to the availability of each ambulance and emergency response vehicle in the ambulance service; and

(b) each movement of an ambulance or an emergency response vehicle used in an ambulance service operated by the operator is reported immediately,

(i) to the communication service referred to in clause (a), and

(ii) if the ambulance or emergency response vehicle passes through a region for which a communication service other than the communication service referred to in clause (a) is designated, to that communication service.

(4) The operator of a land ambulance service shall notify the communication service that normally directs the ambulances or emergency response vehicles used in the ambulance service,

(a) when a land ambulance or emergency response vehicle is removed from service for repair or maintenance or for repair or maintenance of the communications equipment installed in or assigned to the vehicle; and

(b) when an ambulance or emergency response vehicle that was removed from service under clause (a) is returned to service.

(5) The operator of an air ambulance service shall notify the communication service that normally directs the air ambulances used in the ambulance service,

(a) when the air ambulance is removed from service for repair or maintenance or for repair or maintenance of the communications equipment installed in or assigned to the air ambulance; and

(b) when an air ambulance that was removed from service under clause (a) is returned to service.

46. No operator may transmit on or otherwise use or permit the use of any frequency in connection with ambulance services other than the frequencies assigned to the operator by the Director.

47. (1) The driver of a land ambulance, or the pilot of an air ambulance, in which a patient is transported shall transport the patient to a facility directed by a communications officer ordering the movements of the ambulance.

(2) If an ambulance is not directed to a facility by a communications officer, the driver of the land ambulance or the pilot of an air ambulance shall transport the patient to the nearest facility which provides the type of care required for the patient.

48. An operator of a land ambulance service shall ensure that a land ambulance that is not in service is driven only if a sign bearing the words "Not in Service" is displayed both at the front and at the rear of the vehicle in a conspicuous manner.

49. (1) The operator of a land ambulance service shall ensure that the vehicle number assigned by the Director for each ambulance or emergency response vehicle used in the ambulance service is clearly displayed at the lower left corner of the windshield and at the left side at the rear of the vehicle.

(2) The operator of a land ambulance service shall ensure that only the vehicle number assigned by the Director is used as the radio call number for each ambulance or emergency response vehicle used in the ambulance service.

50. The operator of a land ambulance service shall ensure that no vehicle used in the operation of the service is identified as an ambulance or emergency response vehicle unless it is a vehicle that the operator is authorized to use under this Regulation.

51. (1) This section applies to an operator who, in addition to operating an ambulance service, operates a communication service.

(2) It is a condition of the licence of an operator to whom this section applies that, if the Director gives the operator notice to cease operating the communication service and transfer control of it to a new communication service established under clause 4 (1) (c) of the Act, the operator shall comply with the notice and shall,

- (a) permit Ministry officials to do all things reasonably necessary to transfer control of the communication service to the new communication service;
- (b) ensure that,
 - (i) all telephone numbers under the operator's control that are used, advertised or held out as telephone numbers which the public can use in order to obtain ambulance services are assigned to the new communication service, or
 - (ii) use of those numbers is discontinued;
- (c) not use or permit to be used any telephone line under the operator's control for the purpose of assigning calls to ambulances and emergency response vehicles; and
- (d) not advertise or hold out any telephone number in any telephone directory or otherwise as the number to call for ambulance services, except for any telephone number of the communication service that normally directs the movements of the operator's ambulances and emergency response vehicles.

52. (1) Subject to subsection (2), this section applies where an operator intends to,

- (a) surrender the operator's licence;
- (b) if the operator is a corporation other than a municipality or a public hospital,
 - (i) sell or dispose of shares in the corporation that would result in a change in the control of the corporation, or
 - (ii) dispose of the corporation's assets; or
- (c) transfer or dispose of any right, title or interest in the ambulance service; or
- (d) cease to operate the ambulance service by any other means.

(2) This section does not apply where an operator ceases to operate an ambulance service by reason of a revocation or refusal to renew the operator's licence by the Director.

(3) If an operator intends to cease operating an ambulance service, the operator shall give the Director at least 90 days written notice.

(4) Despite subsection (3), if the operator intends to cease operating the ambulance service within less than 90 days, written notice shall be given to the Director as soon as possible.

(5) A notice under this section shall set out,

- (a) the event or transaction that will result in the cessation;
- (b) the date on which the operator will cease operating the ambulance service; and
- (c) the particulars of the event or transaction that will result in the cessation, including,
 - (i) any arrangements or plans for the sale, transfer or other disposition of the ambulance service or any part of the ambulance service, or of any right, title or interest in the ambulance service, and
 - (ii) if the operator is a corporation, any arrangements or plans for the transfer or other disposition of shares in the corporation by any shareholder between the date notice is given and the date the operator ceases to operate the ambulance service.

(6) If the operator of an ambulance service that receives funds from the Province of Ontario on an ongoing basis intends to cease to operate an ambulance service, the operator shall, at the request of the Director,

- (a) deliver to a person or place designated by the Director,
 - (i) the register of employees referred to in section 24,
 - (ii) all invoices, work orders and other documents relating to the maintenance and repair of each ambulance owned by the Province of Ontario,
 - (iii) the report referred to in sections 26 and 27,
 - (iv) all records, reports, books, documents or recordings relating to any person who has been provided with ambulance services or to any call for ambulance services,
 - (v) all financial or other records or reports relating to the ambulance service not previously submitted to the Director under this Regulation;
- (b) deliver to a person or place designated by the Director all property in the operator's possession or under the operator's control that is owned or has been funded by the Province of Ontario; and
- (c) subject to subsection (7), deliver to the Director closing financial statements for the ambulance service on forms provided by the Ministry for that purpose, together with a copy of the related audited financial statements.

(7) Clause (6) (c) does not apply if the operator is a municipality or a public hospital except if the operator receives funds from the Province of Ontario on an ongoing basis.

COMMUNICATION SERVICES

53. (1) No communications officer shall,

- (a) while on duty, take, consume or have in his or her possession any liquor within the meaning of the *Liquor Control Act*, or any drug which could impair his or her ability to function as a communications officer; or
- (b) report for duty while under the influence of any liquor within the meaning of the *Liquor Control Act*, or any drug which could impair his or her ability to function as a communications officer.

(2) No person who operates a communication service shall permit a communications officer to receive or assign calls for ambulance services or for other emergency and non-emergency services at a communication service while the communications officer is apparently under the influence of liquor or drugs or suffering from the effects of liquor or drugs.

54. (1) When directing the movements of an ambulance, a communications officer shall comply with any request for a patient to be transported to a specified health facility that is made by a physician or midwife unless,

- (a) the facility cannot receive the patient; or
- (b) a change in the medical condition of the patient requires that the patient be taken to a closer facility or a facility that is better able to care for the patient.

(2) If a communications officer directs an ambulance to a facility other than the one requested by a physician or midwife, the officer shall inform the physician or midwife of the change in the patient's destination.

55. (1) A person who operates a communication service shall prepare written operational procedures respecting the method of assigning calls to ambulance services and of deploying ambulances and emergency response vehicles and submit the procedures, and any changes to the procedures, to the Director for his or her approval.

(2) The Director shall approve the operational procedures and any changes to the procedures if the Director is satisfied that the proposed procedures or changes will ensure that ambulances and emergency response vehicles respond to calls in an efficient, accurate and timely manner.

(3) A person who operates a communication service shall, in the course of operating the service, follow the procedures approved by the Director under subsection (2).

56. (1) A communications officer who receives a priority 4 (emergency) call shall,

- (a) take no longer than 45 seconds to obtain the necessary patient information to accurately prioritize the call and, where applicable, assign it to a dispatcher; and
- (b) after obtaining the patient information under clause (a), where land ambulance services are required, take no longer than 1 minute and 15 seconds to accurately select and alert the land ambulance crew that will respond to the call.

(2) A person who operates a communication service shall ensure that 90 per cent of the priority 4 (emergency) calls that are received by the service within a 12 month period meet the response time requirements specified under subsection (1).

PART XII COMMENCEMENT

57. This Regulation comes into force on January 1, 1998.

58. This Regulation is revoked on July 1, 1998.

Schedule 1

List of Controlled Acts that may be
Performed by a Primary Care Paramedic

| Item | Controlled Acts |
|------|---|
| 1. | Administration of glucagon, oral glucose, nitroglycerin, epinephrine, salbutamol and ASA (80mg form). |
| 2. | Semi-automated external cardiac defibrillation. |
| 3. | Peripheral intravenous cannulation. |

Schedule 2

List of Controlled Acts that may be
Performed by an Advanced Care Paramedic

| Item | Controlled Acts |
|------|--|
| 1. | Administration of the drugs specified in item 1 of Schedule 1 in addition to any other drug approved by the Director on the recommendation of one or more medical directors of base hospital programs. |
| 2. | Semi-automated external cardiac defibrillation. |
| 3. | Peripheral intravenous therapy. |
| 4. | Endotracheal intubation. |
| 5. | Non-automated external cardiac defibrillation and monitoring. |

Schedule 3

List of Controlled Acts that may be
Performed by a Critical Care Paramedic

| Item | Controlled Acts |
|------|--|
| 1. | Administration of any drug that an advanced care paramedic may administer under item 1 of Schedule 2, in addition to any other drug approved by the Director on the recommendation of one or more medical directors of base hospital programs. |
| 2. | The controlled acts referred to in items 2 to 5 of Schedule 2. |
| 3. | Non-automated external cardiac defibrillation, electrical cardioversion and pacing. |
| 4. | Maintenance and monitoring of arterial and central venous catheters. |
| 5. | Gastric intubation and suction. |
| 6. | Ventilation (mechanical) and setting of ventilatory parameters. |
| 7. | Lab blood value interpretation. |
| 8. | Management of chest tubes and chest drainage systems. |
| 9. | Chest x-ray interpretation. |

| Item | Controlled Acts |
|------|--|
| 10. | Urinary catheter insertion. |
| 11. | Intravenous blood product administration. |
| 12. | Doppler flow monitor use. |
| 13. | Pulse oximeter use end tidal volume carbon dioxide monitoring. |
| 14. | Use of infusion pumps. |
| 15. | Other advanced airway techniques, e.g. needle thoracostomy, cricothyroidotomy. |

ELIZABETH WITMER
Minister of Health

Dated on December 16, 1997.

1/98

ONTARIO REGULATION 502/97
made under the
HEALTH INSURANCE ACT

Made: December 17, 1997
Filed: December 17, 1997

Amending Reg. 552 of R.R.O. 1990
(General)

Note: Since January 1, 1997, Regulation 552 has been amended by Ontario Regulations 14/97, 15/97, 59/97, 142/97 and 197/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) The definition of "schedule of benefits" in subsection 1 (1) of Regulation 552 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

"schedule of benefits" means the schedule set out in the Ministry of Health document dated November 17, 1997, titled "Schedule of Benefits—Physician Services under the *Health Insurance Act* (February 1, 1998)" and includes the parts of the publication dealing with what a service encompasses, what amounts are payable and the circumstances in which they are payable, but does not include,

- (a) Appendix F to the General Preamble, and
- (b) the part of the "Laboratory Medicine" section from and including the Preamble to and including item L731.

(2) Subsection 1 (3) of the Regulation is revoked.

2. This Regulation comes into force on February 1, 1998.

1/98

ONTARIO REGULATION 503/97made under the
LAW SOCIETY ACT

Made: November 14, 1997

Approved: December 17, 1997

Filed: December 17, 1997

Amending Reg. 708 of R.R.O. 1990
(General)

Note: Since January 1, 1997, Regulation 708 has been amended by Ontario Regulation 47/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 16 of Regulation 708 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

16. (1) Every member who engages in the private practice of law in Ontario shall inform the Secretary in writing of the termination date of his or her fiscal year, and shall file with the Secretary written notice of any change in the fiscal year within one month after the change is made.

(2) Every member shall submit a report to the Society, by January 31 of each year, in the form or forms prescribed by the rules, in respect of the member's practice of law in Ontario during the period of time specified in the form or forms.

(3) In addition to the report required by subsection (2), members shall submit the following reports to the Society:

1. Every member who engages in the private practice of law in Ontario, except a member described in paragraph 2 or 3, shall submit a report to the Society within ninety days after the termination of his or her fiscal year, in the form or forms prescribed by the rules, in respect of the member's private practice of law in Ontario during the fiscal year.
2. Every member who engages in the private practice of law in Ontario exclusively as an employee of a sole practitioner or law firm shall submit a report to the Society by March 31 of each year, in the form or forms prescribed by the rules, in respect of the member's private practice of law in Ontario during the previous calendar year and in respect of the member's employment with each sole practitioner or firm with which he or she was employed during the previous calendar year.
3. Every member who engages in the practice of law in Ontario exclusively as an employee of a corporation which is not a member of the Society or as an employee of an unincorporated association which is not a law firm or a member of the Society shall submit a report to the Society by March 31 of each year, in the form or forms prescribed by the rules, in respect of the member's practice of law in Ontario during the previous calendar year and in respect of the member's employment with each corporation or unincorporated association with which he or she was employed during the previous calendar year.
4. Every member who does not engage in the private practice of law in Ontario but who continues, from his or her private practice of law in Ontario in a previous year, to handle the property of clients as an estate trustee, an attorney appointed under a power of attorney or otherwise, shall submit a report to the Society by March 31 of each year, in the form or forms prescribed by the rules, in respect of each client's property which he or she handled during the previous calendar year.

RÈGLEMENT DE L'ONTARIO 503/97pris en application de la
LOI SUR LE BARREAU

pris le 14 novembre 1997

approuvé le 17 décembre 1997

déposé le 17 décembre 1997

modifiant le Règl. 708 des R.R.O. de 1990
(Dispositions générales)

Remarque : Depuis le 1^{er} janvier 1997, le Règlement 708 a été modifié par le Règlement de l'Ontario 47/97. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. L'article 16 du Règlement 708 des Règlements refondus de l'Ontario de 1990 est abrogé et remplacé par ce qui suit :

16. (1) Le membre qui exerce la profession d'avocat à titre privé en Ontario informe par écrit le secrétaire de la date de la fin de son exercice financier. Il dépose auprès de celui-ci un avis de toute modification, dans le mois qui suit la modification.

(2) Le membre présente au Barreau, au plus tard le 31 janvier de chaque année, un rapport rédigé selon la ou les formules prescrites par les règles, à l'égard de son exercice de la profession d'avocat en Ontario au cours de la période précisée dans la ou les formules.

(3) En plus du rapport exigé par le paragraphe (2), les membres présentent au Barreau les rapports suivants :

1. Le membre qui exerce la profession d'avocat à titre privé en Ontario, sauf celui visé à la disposition 2 ou 3, présente au Barreau, dans les 90 jours suivant la fin de son exercice financier, un rapport rédigé selon la ou les formules prescrites par les règles, à l'égard de son exercice de la profession d'avocat à titre privé en Ontario au cours de l'exercice financier.
2. Le membre qui exerce la profession d'avocat à titre privé en Ontario exclusivement à titre d'employé d'un praticien autonome ou d'un cabinet d'avocats présente au Barreau, au plus tard le 31 mars de chaque année, un rapport rédigé selon la ou les formules prescrites par les règles, à l'égard de son exercice de la profession d'avocat à titre privé en Ontario au cours de l'année civile précédente et à l'égard de son emploi auprès de chaque praticien autonome ou cabinet chez qui il était employé au cours de l'année civile précédente.
3. Le membre qui exerce la profession d'avocat en Ontario exclusivement à titre d'employé d'une personne morale qui n'est pas membre du Barreau ou à titre d'employé d'une association sans personnalité morale qui n'est ni un cabinet d'avocats ni un membre du Barreau présente à ce dernier, au plus tard le 31 mars de chaque année, un rapport rédigé selon la ou les formules prescrites par les règles, à l'égard de son exercice de la profession d'avocat en Ontario au cours de l'année civile précédente et à l'égard de son emploi auprès de chaque personne morale ou association sans personnalité morale chez qui il était employé au cours de l'année civile précédente.
4. Le membre qui n'exerce pas la profession d'avocat à titre privé en Ontario mais qui continue de s'occuper, notamment à titre de fiduciaire de la succession ou de procureur constitué en vertu d'une procuration, des biens de clients qu'il avait lorsqu'il exerçait la profession d'avocat à titre privé en Ontario au cours d'une année antérieure, présente au Barreau, au plus tard le 31 mars de chaque année, un rapport rédigé selon la ou les formules prescrites par les règles, à l'égard des biens de chaque client dont il s'est occupé au cours de l'année civile précédente.

16.1 (1) The Secretary or the chair or a vice-chair of the Discipline Committee may, at any time and with or without cause, require any member who is required to submit a report under subsection 16 (3) to submit to the Society, in addition to the report required under that subsection, a report of a public accountant relating to the matters in respect of which the member is required to submit a report to the Society under subsection 16 (3).

(2) The Secretary or the chair or vice-chair of the Discipline Committee who requires the report shall specify the matters to be included in the report and the time within which it must be submitted to the Society.

(3) For the purpose of permitting the public accountant to complete the report, the member shall,

- (a) grant to the public accountant full access, without restriction, to all files maintained by the member;
- (b) produce to the public accountant all evidence, vouchers, records, books and papers which the public accountant may require; and
- (c) provide to the public accountant such explanations as the public accountant may require.

(4) For the purpose of permitting the public accountant to complete the report, the public accountant shall,

- (a) be entitled to confirm independently the particulars of any transaction in the files; and
- (b) protect any privilege attaching to the documents in the files that he or she examines.

(5) If a member fails to submit the report of a public accountant within the specified time, the Secretary or the chair or a vice-chair of the Discipline Committee may require an investigation of the member's books and accounts to be made by a person designated by him or her, who need not be a public accountant, for the purpose of obtaining the information that would have been provided in the report.

(6) Subsections (3) and (4) apply with necessary modifications to the investigation under subsection (5).

(7) The cost of preparing the report required under subsection (1), including the cost of retaining a public accountant, shall be paid for by the member.

(8) The cost of the investigation under subsection (5) shall be paid for by the member in accordance with the rules.

(9) Nothing in this section limits the authority under section 18 of the chair or a vice-chair of the Discipline Committee to require an investigation to be made of the books and accounts of any member or the right of Convocation or the Discipline Committee to institute further investigations or to require the filing of other reports.

LAW SOCIETY OF UPPER CANADA:

HARVEY T. STROSBERG
Treasurer

RICHARD TINSLEY
Secretary

Dated on November 14, 1997.

16.1 (1) Le secrétaire ou le président ou un vice-président du Comité de discipline peut, avec ou sans motif, exiger qu'un membre qui est tenu de présenter un rapport aux termes du paragraphe 16 (3) présente au Barreau, en plus de ce rapport, un rapport dressé par un comptable public relativement aux questions à l'égard desquelles le membre est tenu de présenter un rapport au Barreau aux termes du paragraphe 16 (3).

(2) Le secrétaire ou le président ou le vice-président du Comité de discipline qui exige le rapport précise les questions qui doivent être incluses dans le rapport et le délai dans lequel celui-ci doit être présenté au Barreau.

(3) Afin que le comptable public puisse dresser son rapport, le membre fait ce qui suit :

- a) il lui permet de consulter, sans aucune restriction, tous les dossiers qu'il tient;
- b) il lui fournit les éléments de preuve, pièces justificatives, registres, livres et papiers dont il peut avoir besoin;
- c) il lui fournit les explications dont il peut avoir besoin.

(4) Afin qu'il puisse dresser son rapport, le comptable public :

- a) d'une part, peut obtenir, de façon indépendante, confirmation du contenu des opérations figurant dans les dossiers;
- b) d'autre part, protège les privilèges rattachés aux documents, figurant dans les dossiers qu'il examine.

(5) Si un membre ne présente pas le rapport d'un comptable public dans le délai précisé, le secrétaire ou le président ou un vice-président du Comité de discipline peut exiger que la personne qu'il désigne, laquelle n'est pas tenue d'être un comptable public, examine les livres et comptes du membre afin d'obtenir les renseignements qui auraient été fournis dans le rapport.

(6) Les paragraphes (3) et (4) s'appliquent, avec les adaptations nécessaires, à l'examen prévu au paragraphe (5).

(7) Les frais de la préparation du rapport exigé aux termes du paragraphe (1), y compris les frais engagés pour les services d'un comptable public, sont payés par le membre.

(8) Les frais de l'examen prévu au paragraphe (5) sont payés par le membre conformément aux règles.

(9) Le présent article n'a pas pour effet de porter atteinte au pouvoir qu'a, en vertu de l'article 18, le président ou un vice-président du Comité de discipline d'exiger l'examen des livres et comptes d'un membre ou au droit du Conseil ou du Comité de discipline d'entreprendre d'autres enquêtes ou d'exiger le dépôt d'autres rapports.

BARREAU DU HAUT-CANADA:

HARVEY T. STROSBERG
Trésorier

RICHARD TINSLEY
Secrétaire

Fait le 14 novembre 1997.

ONTARIO REGULATION 504/97
made under the
ONTARIO ENERGY BOARD ACT

Made: June 27, 1997
Approved: December 17, 1997
Filed: December 17, 1997

UNIFORM SYSTEM OF ACCOUNTS

1. In this Regulation,

"Class A gas utility" means a gas transmitter, gas distributor or storage company that has annual revenues of more than \$3,000,000 from rates and other charges that are approved or fixed by orders of the Board.

2. (1) The uniform system of accounts set out in the publication of the Board dated April 1, 1996 and entitled "Uniform System of Accounts for Class 'A' Gas Utilities" is prescribed for use by Class A gas utilities, and every Class A gas utility shall keep its accounts in accordance with the uniform system of accounts and with the approvals, consents and determinations of the Board required by the system.

(2) In the case of a Class A gas utility that is in existence when this Regulation comes into force, subsection (1) begins to apply to the utility on the first day of the next fiscal year of the utility that begins at least three months after this Regulation comes into force.

(3) In the case of a gas transmitter, gas distributor or storage companies that becomes a Class A gas utility after this Regulation comes into force, subsection (1) begins to apply to the utility on the first day of the next fiscal year of the utility that begins at least three months after the utility becomes a Class A gas utility.

(4) Despite subsections (2) and (3), the Board may postpone from time to time the date on which subsection (1) begins to apply to a utility if the Board is satisfied that the utility is diligently proceeding with the reclassification of its accounts and requires more time to complete the reclassification.

3. (1) Regulation 702 of the Revised Regulations of Ontario, 1980 is revoked.

(2) Despite subsection (1), Regulation 702 of the Revised Regulations of Ontario, 1980 continues to apply to a Class A gas utility that is in existence when this Regulation comes into force, until subsection 2 (1) begins to apply to the utility.

ONTARIO ENERGY BOARD:

MARIE C. ROUNDING
Chair

PAUL B. PUDGE
Secretary

Dated on June 27, 1996.

1/98

ONTARIO REGULATION 505/97
made under the
ONTARIO ENERGY BOARD ACT

Made: December 20, 1996
Approved: December 17, 1997
Filed: December 17, 1997

Revoking Reg. 870 of R.R.O. 1990
(Rules of Procedure)

1. Regulation 870 of the Revised Regulations of Ontario, 1990 is revoked.

ONTARIO ENERGY BOARD:

MARIE C. ROUNDING
Chair

PAUL B. PUDGE
Secretary

Dated on December 20, 1996.

1/98

ONTARIO REGULATION 506/97
made under the
**AGRICULTURAL TILE DRAINAGE
INSTALLATION ACT**

Made: December 17, 1997
Filed: December 18, 1997

Amending Reg. 18 of R.R.O. 1990
(General)

Note: Regulation 18 has not been amended by in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Subsection 2 (3) of Regulation 18 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

(3) The fee for the issue or renewal of the licence is \$250.

RÈGLEMENT DE L'ONTARIO 506/97
pris en application de la
**LOI SUR LES INSTALLATIONS
DE DRAINAGE AGRICOLE**

pris le 17 décembre 1997
déposé le 18 décembre 1997

modifiant le Règl. 18 des R.R.O. de 1990
(Dispositions générales)

Remarque : Le Règlement 18 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. Le paragraphe 2 (3) du Règlement 18 des Règlements refondus de l'Ontario de 1990 est abrogé et remplacé par ce qui suit :

(3) Les droits à acquitter pour la délivrance ou le renouvellement du permis sont de 250 \$.

2. Sections 3 and 4 of the Regulation are revoked and the following substituted:

3. (1) A licence to be the operator of a machine used in installing drainage works expires at the end of the second year after the year in which it is issued.

(2) The licence is not transferable.

(3) The fee for the issue or renewal of the licence is \$50.

4. (1) Subject to subsection (2), a licence for a machine used in installing drainage works expires at the end of the second year after the year in which it is issued.

(2) A licence for a machine used solely for demonstration purposes expires one year after the date of issue.

(3) The fee for the issue or renewal of a licence is,

(a) \$10 for a licence mentioned in subsection (2); and

(b) \$50 for all other licences mentioned in this section.

1/98

ONTARIO REGULATION 507/97 made under the SECURITIES ACT

Made: December 17, 1997

Filed: December 18, 1997

Amending Reg. 1015 of R.R.O. 1990
(General)

Note: Since January 1, 1997, Regulation 1015 has been amended by Ontario Regulation 247/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 12 of Regulation 1015 of the Revised Regulations of Ontario, 1990 is revoked.

2. (1) Subsection 5 (1) of Schedule 1 to the Regulation is amended by striking out the portion before clause (a) and substituting the following:

(1) Subject to subsection (2),

(2) Subsection 5 (3) of Schedule 1 to the Regulation is revoked.

3. Schedule 1 to the Regulation is amended by adding the following section:

5.1 If, at the request of the Director or the Commission, an organization has assisted in processing,

(a) an application for registration of a salesperson, partner or officer of a dealer or underwriter; or

(b) an application for renewal of registration as a dealer or an underwriter, other than an international dealer or a financial intermediary dealer,

2. Les articles 3 et 4 du Règlement sont abrogés et remplacés par ce qui suit :

3. (1) Le permis d'opérateur de machine utilisée pour mettre en place des installations de drainage expire à la fin de la deuxième année après l'année de sa délivrance.

(2) Le permis n'est pas cessible.

(3) Les droits à acquitter pour la délivrance ou le renouvellement du permis sont de 50 \$.

4. (1) Sous réserve du paragraphe (2), le permis d'utiliser une machine pour mettre en place des installations de drainage expire à la fin de la deuxième année après l'année de sa délivrance.

(2) Le permis pour une machine qui ne sert qu'à la démonstration expire un an après la date de sa délivrance.

(3) Les droits à acquitter pour la délivrance ou le renouvellement du permis sont de :

a) 10 \$ pour le permis visé au paragraphe (2);

b) 50 \$ pour tous les autres permis visés au présent article.

the Director or the Commission may reduce the amount payable with respect to the application under subsection 5 (1) or under clauses 2 (c) and (d), as the case may be, by an amount equal to or less than the fee that the applicant paid the organization for the service.

4. Form 29 of the Regulation is revoked.

1/98

ONTARIO REGULATION 508/97 made under the HIGHWAY TRAFFIC ACT

Made: December 17, 1997

Filed: December 18, 1997

Amending Reg. 628 of R.R.O. 1990
(Vehicle Permits)

Note: Since January 1, 1997, Regulation 628 has been amended by Ontario Regulations 337/97 and 343/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Subsection 13 (2) of Regulation 628 of the Revised Regulations of Ontario, 1990 is amended by striking out "or" at the end of clause (b), by adding "or" at the end of clause (c) and by adding the following clause:

(d) for the purpose of towing the vehicle by a person engaged in the business of transporting vehicles,

(i) to a location where its load will be removed as required by section 82.1 of the Act, or

(ii) to an impound facility pursuant to subsection 82.1 (19) of the Act.

2. This Regulation comes into force on February 2, 1998.

1/98

ONTARIO REGULATION 509/97
made under the
HIGHWAY TRAFFIC ACT

Made: December 17, 1997
Filed: December 18, 1997

Amending O. Reg. 340/94
(Drivers' Licences)

Note: Since January 1, 1997, Ontario Regulation 340/97 has been amended by Ontario Regulations 149/97, 251/97 and 416/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Subsection 12 (3) of Ontario Regulation 340/94 is revoked.

1/98

ONTARIO REGULATION 510/97
made under the
HIGHWAY TRAFFIC ACT

Made: December 17, 1997
Filed: December 18, 1997

Amending Reg. 611 of R.R.O. 1990
(Safety Inspections)

Note: Regulation 611 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 8 of Regulation 611 of the Revised Regulations of Ontario, 1990 is amended by adding the following subsection:

(8) A commercial vehicle is exempt from the requirements of this section while being towed under the terms of a Dealer and Service number plate issued under Regulation 628 of the Revised Regulations of Ontario, 1990,

- (a) to a location where its load will be removed as required by section 82.1 of the Act; or
- (b) to an impound facility pursuant to subsection 82.1 (19) of the Act.

2. This Regulation comes into force on February 2, 1998.

1/98

ONTARIO REGULATION 511/97
made under the
HIGHWAY TRAFFIC ACT

Made: December 17, 1997
Filed: December 18, 1997

Amending Reg. 574 of R.R.O. 1990
(Appeals)

Note: Regulation 574 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Regulation 574 of the Revised Regulations of Ontario, 1990 is amended by adding the following Part at the end:

PART III
APPEALS UNDER SECTION 50.3

16. This Part applies to appeals to the Board under section 50.3 of the Act.

17. (1) An appeal to the Board under section 50.3 of the Act shall be commenced by filing with the Board a notice of appeal, together with proof of service of a copy of the notice of appeal on the Registrar at the address set out in the impound order.

(2) The notice of appeal shall clearly state,

- (a) the owner's name, telephone number, address with postal code and fax number;
- (b) if the owner is represented by counsel, counsel's name, telephone number, address with postal code and fax number;
- (c) the date and number of the order to suspend and impound;
- (d) the name and location of the impound facility to which the commercial motor vehicle or trailer was ordered to be impounded; and
- (e) the ground or grounds of appeal under subsection 50.3 (3) of the Act that the owner relies upon, together with a brief summary of the facts in dispute.

(3) Upon receipt of the documents required by subsection (1), the Board shall forthwith provide the owner and Registrar with written confirmation that the appeal has been commenced.

18. (1) The Board shall hold an oral hearing at the closest available location to the site of the inspection from which the Registrar ordered the vehicle to be removed to an impound facility or at such other location that is consented to by both parties.

(2) Despite subsection (1), the Board may hold a written hearing if the owner or Registrar requests it and the other parties consents.

2. This Regulation comes into force on February 2, 1998.

1/98

ONTARIO REGULATION 512/97
made under the
HIGHWAY TRAFFIC ACT

Made: December 17, 1997
Filed: December 18, 1997

**SUSPENSION AND IMPOUNDMENT OF
COMMERCIAL MOTOR VEHICLES
FOR CRITICAL DEFECTS UNDER
SECTION 82.1 OF THE ACT**

PART I
GENERAL

CERTIFICATION OF OFFICERS

1. A police officer or officer appointed for carrying out the provisions of this Act must hold a Critical Inspection Certificate issued by the Registrar in order to carry out inspections under section 82.1 of the Act.

PRESCRIBED PERIOD

2. For the purpose of subsection 82.1 (7) of the Act, the prescribed period is two years.

SERVICE OF AN ORDER TO IMPOUND AND SUSPEND

3. (1) A copy of an order made under subsection 82.1 (7) of the Act, or notice of it, shall be served on the owner and operator of the vehicle as soon as possible after the order has been made, either by serving the driver as provided in subsection 82.1 (13) of the Act or in a manner set out in this section.

(2) A copy of an order made under subsection 82.1 (7) of the Act, or notice of it, may be served on the operator and owner of the vehicle,

- (a) personally;
- (b) by registered mail;
- (c) by courier; or
- (d) by fax.

(3) A copy of an order made under subsection 82.1 (7) of the Act, or notice of it, may be served on the operator of the commercial motor vehicle,

- (a) at the most recent address or fax number for the operator in the Ministry's records;
- (b) at the address or fax number appearing on the CVOR certificate, produced by the driver or other person in charge of the commercial motor vehicle;
- (c) at the address or fax number appearing on the lease or contract described in subsection 16 (3) of the Act that is produced by the driver or other person in charge of the commercial motor vehicle;
- (d) at the address or fax number appearing on the certificate of registration for the commercial motor vehicle, and, where the certificate of registration consists of a vehicle portion and plate portion, at the address or fax number appearing on the plate portion; or
- (e) at any address or fax number at which the Registrar reasonably believes the order will come to the operator's notice, including the address or fax number,
 - (i) of any of the operator's places of business, or
 - (ii) of the operator's lawyer or agent.

(4) A copy of an order made under subsection 82.1 (7) of the Act, or notice of it, may be served on the owner of the vehicle,

- (a) at the most recent address or fax number for the owner in the Ministry's records;
- (b) at the address or fax number appearing on the certificate of registration for the commercial motor vehicle, and, where the certificate of registration consists of a vehicle portion and plate portion, at the address or fax number appearing on the vehicle portion; or
- (c) at any address or fax number at which the Registrar reasonably believes the order will come to the owner's notice, including the address or fax number,
 - (i) of any of the owner's places of business, or
 - (ii) of the owner's lawyer or agent.

(5) If there is more than one owner of the vehicle, the Registrar is only required to serve a copy of the order or notice of it on any one of the owners.

(6) A copy of an order, or notice of it, shall be deemed to have been served on a person,

- (a) on the day it was personally served;
- (b) on the fifth day after it was mailed;
- (c) on the second day after it was given to the courier;
- (d) on the day it was sent by fax, if sent before 5 p.m.;
- (e) on the day after it was sent by fax, if sent at or after 5 p.m.

(7) If the day described in clause (6) (b), (c), (d) or (e) is a holiday, the copy of the order, or notice of it, shall be deemed to have been served on the next day that is not a holiday.

(8) Subsections (2), (4), (5), (6) and (7) apply with necessary modifications to an order made under subsection 50.3 (4) or (7) of the Act.

SECURITY

4. (1) For the purpose of subsection 82.1 (23) of the Act, the security ordered to be deposited with the court may be in the form of a bond, letter of credit, certified cheque, bank draft or money order.

(2) If the security is in the form of a bond, it shall be given by an insurer licensed under the *Insurance Act* to write surety and fidelity insurance and shall remain in force until the security is released to the owner under subsection (9) or transferred to the Minister of Finance under subsection (11).

(3) If the security is in the form of a letter of credit, it shall be irrevocable, shall be given by a loan or trust corporation registered in Ontario or by a bank named in Schedule I or II of the *Bank Act* (Canada) and shall remain in force until the security is released to the owner under subsection (9) or transferred to the Minister of Finance under subsection (11).

(4) All security deposited with the court shall be made payable to the Accountant of the Ontario Court.

(5) The Accountant of the Ontario Court shall not release the security to the owner except in accordance with a court order or on consent and shall not transfer the security to the Crown except in accordance with a certificate of forfeiture.

(6) An owner who seeks the release of the security shall obtain an order of the court that ordered that the security be deposited or the consent of the Registrar to the release of the security.

(7) An owner who seeks the release of the security in accordance with a court order shall file with the Accountant of the Ontario Court,

- (a) a requisition for the release of the security;
- (b) a certified copy of the court order; and
- (c) an affidavit stating that the time prescribed by the Rules of Civil Procedure for an appeal from the court order directing the release of the security has expired and no appeal is pending.

(8) An owner who seeks the release of the security on consent shall file with the Accountant of the Ontario Court,

- (a) a requisition for the release of the security; and

(b) the consent of the owner and the Registrar, or their solicitors.

(9) Upon receipt of the materials required by subsection (7) or (8), the Accountant of the Ontario Court shall release the security to the owner with accrued interest, if any.

(10) Upon the forfeiture of the security to the Crown under subsection 50.3 (4) or (7) of the Act, the Registrar may file with the Accountant of the Ontario Court a certificate of forfeiture in a form approved by the Minister, without notice to the owner.

(11) Upon receipt of the certificate of forfeiture, the Accountant of the Ontario Court shall transfer the security with accrued interest, if any, to the Minister of Finance.

PART II CRITICAL DEFECTS

INTERPRETATION

5. (1) In this Part,

"broken", when used to refer to a vehicle component, means that the component or any of its sub-components is split into more than one part;

"cracked", when used to refer to a vehicle component, means that the component is not broken but has a split that penetrates completely through the component or any of its sub-components;

"steering axle" means any axle of a commercial motor vehicle that is controlled by the driver to provide direction to the motor vehicle.

(2) For the purposes of an inspection for critical defects under section 82.1 of the Act,

(a) a liftable axle, being an axle that is designed to be adjusted vertically and to lift its tires from contact with the surface of the highway when in a raised position, shall be considered part of a vehicle;

(b) a conversion unit shall be considered part of the vehicle that it converts; and

(c) a trailer converter dolly, if carrying a trailer, shall be considered part of that trailer.

BRAKES

6. In sections 7 and 8, "rotor" includes a disc.

AIR BRAKES

7. (1) In this section, the measurement of travel of a push rod out of a service brake chamber shall be taken with the vehicle engine turned off, the air system pressure between 90 and 100 psi (620 and 690 kPa), the park brakes released and the service brake actuator fully applied.

(2) A commercial motor vehicle or trailer, if the trailer is required by subsection 64 (5) of the Act to have brakes, equipped with an air brake system other than an air-over-hydraulic brake system has a critical defect for the purposes of section 82.1 of the Act if one or more of the following defects is present on more than 50 per cent of the wheel brakes of the vehicle:

1. A drum or rotor is cracked, broken or missing.
2. A chamber housing, chamber support, chamber push rod, slack adjuster, cam shaft, or cam shaft support bracket is broken or missing.

3. A shoe, shoe lining, shoe block, pad, pad lining or pad block is missing.

4. The push rod travel out of the service brake chamber is $\frac{1}{4}$ inch (6.3 mm) or more beyond the measurement listed in Column 2 of Schedule 1 for the type of chamber listed in Column 1 of Schedule 1 if the brake is cam or disc type.

HYDRAULIC BRAKES

8. (1) A commercial motor vehicle or trailer, if the trailer is required by subsection 64 (5) of the Act to have brakes, equipped with hydraulic or air-over-hydraulic brakes has a critical defect for the purposes of section 82.1 of the Act if two or more of the following defects are present on the vehicle:

1. Brake fluid can be seen coming out of any location in the system upon full brake application with the vehicle engine turned on or the depth of hydraulic brake fluid in any reservoir of the master cylinder is less than $\frac{1}{4}$ inch (6.3 mm) at its deepest point.
2. A brake drum or rotor is cracked, broken or missing.
3. The actuator, linkages or cables of the parking brake system are broken or missing or any cables are seized such that there is no movement of the cables to both rear wheel brakes when the brake actuator is applied.

(2) If a commercial motor vehicle or trailer has two or more defects of the type described in paragraph 2 of subsection (1), the two or more defects under that paragraph constitute a critical defect for the purpose of section 82.1 of the Act.

STEERING

9. A commercial motor vehicle has a critical defect for the purposes of section 82.1 of the Act if either of the following defects is present:

1. With the wheels of the steering axle on the ground in the straight ahead position and the engine turned on, the circumference of the steering wheel moves in excess of the measurements contained in Column 2 for the applicable diameter shown in Column 1 of Schedule 2, with no accompanying movement of the left front wheel.
2. With the vehicle having been stopped with the wheels of the steering axle on the ground in the straight ahead position, with hand force alone applied, a steering linkage ball and socket joint relating to the steering axle moves other than rotationally by more than $\frac{1}{4}$ inch (6.3 mm).

WHEELS AND RIMS

DEFINITIONS

10. (1) In this section,

"fastener" means a component used to secure a vehicle's disc wheels or spoke wheel rims to the vehicle and may include a wheel stud, rim clamp stud, inner cap nut, outer cap nut, two-piece flange nut, ball seat nut, flat nut or any combination of them;

"loose", when applied to a fastener, means that there is visually observable space between the fastener and its contact point on the disc wheel or spoke wheel rim or that the fastener can be moved using hand force only;

"wheel assembly" means disc wheels, spoke wheels and fasteners on one side of one axle.

(2) A commercial motor vehicle or trailer has a critical defect for the purposes of section 82.1 of the Act if one or more of the following defects is present on two or more of its wheel assemblies:

1. A disc wheel or component of it is broken.

SUSPENSION AND FRAME

2. 50 per cent or more of the stud holes in a stud piloted disc wheel are visibly elongated or 50 per cent or more of the stud holes in a hub piloted disc wheel are visible when the nuts are seated against the disc wheel.

3. A spoke wheel, including a cast wheel, or a component of it, is broken.

4. On a wheel with 10 or more fastener positions, any three fasteners or any two adjacent fasteners are cracked, broken, missing or loose.

5. On a wheel with 9 or fewer fastener positions, any two fasteners are cracked, broken, missing or loose.

TIRES

11. (1) In this section,

"bias ply tire" includes belted bias ply tire;

"cord" means the strands of material used to strengthen a tire;

"radial ply tire" includes belted radial ply tire;

"sidewall" means the portion of a tire between the tread and the bead;

"tread" means the portion of a tire designed to come into contact with the road.

(2) A commercial motor vehicle or trailer has a critical defect for the purposes of section 82.1 of the Act if one or more of the following defects is present on four or more of its tires:

1. A steering axle tire,

i. has no tread remaining across 75 per cent or more of the width of the tire at any location on the tire, or

ii. has exposed cord.

2. In a bias ply tire, other than a steering axle tire,

i. two or more layers of cord are exposed, or

ii. five square inches (32.3 square centimetres) or more of the outermost layer of cords are exposed.

3. In a radial ply tire, other than a steering axle tire,

i. two or more layers of cord are exposed in the tread area, or

ii. six square inches (38.7 square centimetres) of cord is exposed in the sidewall.

4. A tire,

i. is contacting a vehicle component, other than a tire, with the vehicle stopped in the straight ahead position,

ii. is void of air pressure or has an air leak that is audible or tangible, or

iii. is marked "not for highway use" or "farm use only" or bears the letters "SL", "NHS", "K", "SS", "AT", "DH", "VA" or "TG" as part of the tire designation or on any other location on the tire.

12. (1) In this section,

"helper leaf spring" means a leaf spring designed for auxiliary load resistance;

"leaf spring assembly" means an assembly of four or more leaf springs, not including helper leaf springs;

"leaf spring" means a long narrow plate of spring steel designed for load resistance.

(2) A commercial motor vehicle or trailer has a critical defect for the purposes of section 82.1 of the Act if on one or more of its leaf spring assemblies 50 per cent or more of the leaf springs, including the helper leaf springs if in use, are broken.

(3) A commercial motor vehicle or trailer has a critical defect for the purposes of section 82.1 of the Act if any of its frame members or other structural support members is broken, bent or perforated by corrosion resulting in the shifting of the vehicle's body onto any component of the vehicle's steering, clutch, fifth wheel, engine, transmission or suspension systems.

13. This Regulation comes into force on February 2, 1998.

Schedule 1

| COLUMN 1 | | | COLUMN 2 | |
|---|------------------|------------|-----------------|-----------|
| Service Brake Chambers | | | Push Rod Travel | |
| Clamp Type Brake Chamber Data | | | | |
| Type | Outside Diameter | | | |
| 6 | 4½" | (114.3mm) | 1¼" | (31.75mm) |
| 9 | 5¼" | (133.35mm) | 1¾" | (34.93mm) |
| 12 | 5⅛" | (144.46mm) | 1¾" | (34.93mm) |
| 12 Long Stroke | 5⅛" | (144.46mm) | 1¾" | (44.45mm) |
| 16 | 6¾" | (161.93mm) | 1¾" | (44.45mm) |
| 16 Long Stroke | 6¾" | (161.93mm) | 2" | (50.8mm) |
| 20 | 6⅝" | (172.24mm) | 1¾" | (44.45mm) |
| 20 Long Stroke | 6⅝" | (172.24mm) | 2" | (50.8mm) |
| 24 | 7⅞" | (183.36mm) | 1¾" | (44.45mm) |
| 24 Long Stroke | 7⅞" | (183.36mm) | 2" | (50.8mm) |
| 24 Long Stroke with Square Inlet Port or with Square Raised Embossment on Lid ... | 7⅞" | (183.36mm) | 2½" | (63.5mm) |
| 30 | 8⅝" | (205.58mm) | 2" | (50.8mm) |
| 30 Long Stroke with Square Inlet Port or with Square Raised Embossment on Lid ... | 8⅝" | (205.58mm) | 2½" | (63.5mm) |
| 36 | 9" | (228.6mm) | 2¼" | (57.15mm) |

| Bolt Type Chamber Data | | | |
|---|--|---|--|
| Type | Outside Diameter | | |
| A | 6 ¹⁵ / ₁₆ " (176.21mm) | 1 ³ / ₈ " (34.93mm) | |
| B | 9 ³ / ₁₆ " (233.36mm) | 1 ³ / ₄ " (44.45mm) | |
| C | 8 ¹ / ₁₆ " (204.79mm) | 1 ³ / ₄ " (44.45mm) | |
| D | 5 ³ / ₄ " (133.35mm) | 1 ³ / ₄ " (31.75mm) | |
| E | 6 ³ / ₁₆ " (157.16mm) | 1 ³ / ₈ " (34.93mm) | |
| F | 11" (279.4mm) | 2 ³ / ₄ " (57.15mm) | |
| G | 9 ⁷ / ₈ " (250.83mm) | 2" (50.8mm) | |
| Rotochamber Type Chamber Data | | | |
| Type | Outside Diameter | | |
| 9 | 4 ⁹ / ₃₂ " (108.74mm) | 1 ¹ / ₂ " (38.1mm) | |
| 12 | 4 ¹³ / ₁₆ " (122.23mm) | 1 ¹ / ₂ " (38.1mm) | |
| 16 | 5 ¹³ / ₃₂ " (137.32mm) | 2" (50.8mm) | |
| 20 | 5 ¹⁵ / ₁₆ " (150.81mm) | 2" (50.8mm) | |
| 24 | 6 ¹³ / ₃₂ " (162.72mm) | 2" (50.8mm) | |
| 30 | 7 ¹ / ₁₆ " (179.39mm) | 2 ³ / ₄ " (57.15mm) | |
| 36 | 7 ⁵ / ₈ " (193.68mm) | 2 ³ / ₄ " (69.85mm) | |
| 50 | 8 ⁷ / ₈ " (225.43mm) | 3" (76.2mm) | |
| Tie Rod Piston Type Chamber Data | | | |
| Type | Outside Diameter | | |
| 30 Long Stroke with Square Inlet Port | 6 ¹ / ₂ " (165.1mm) | 2 ¹ / ₂ " (63.5mm) | |
| DD-3 Type Chamber Data | | | |
| Type | Outside Diameter | | |
| 30 | 8 ¹ / ₈ " (206.37mm) | 2 ³ / ₄ " (57.15mm) | |

Schedule 2

| Column 1 | Column 2 |
|--|--------------------|
| Steering Wheel Diameter | Free movement |
| Less than 16 inches (40.6cm) | 8 inches (20.3cm) |
| 16 inches (40.6cm) and larger but less than 18 inches (45.7cm) | 9 inches (22.8cm) |
| 18 inches (45.7cm) and larger but less than 19 inches (48.2cm) | 10 inches (25.4cm) |
| 19 inches (48.2cm) and larger but less than 20 inches (50.8cm) | 11 inches (29.7cm) |
| 20 inches (50.8cm) and larger but less than 21 inches (53.3cm) | 12 inches (30.4cm) |
| 21 inches (53.3cm) and larger but less than 22 inches (55.8cm) | 13 inches (33cm) |
| 22 inches and larger (55.8cm) | 14 inches (35.5cm) |

ONTARIO REGULATION 513/97
made under the
BAILIFFS ACT

Made: December 17, 1997

Filed: December 18, 1997

Amending Reg. 53 of R.R.O. 1990
(General)

Note: Regulation 53 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 1 of Regulation 53 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

1. The fee payable to the Registrar upon application for appointment is \$190.

1/98

ONTARIO REGULATION 514/97
made under the
CEMETERIES ACT (REVISED)

Made: December 17, 1997

Filed: December 18, 1997

Amending O. Reg. 131/92
(Licences)

Note: Ontario Regulation 131/92 has not previously been amended.

1. Section 12 of Ontario Regulation 131/92 is revoked and the following substituted:

12. The application fee for a licence to own a newly established cemetery or crematorium is \$215.

2. Subsection 13 (1) of the Regulation is amended by striking out "\$10" at the beginning of the third line and substituting "\$25".

3. Subsection 14 (1) of the Regulation is amended by striking out "\$10" in the second line and substituting "\$25".

4. Sections 15 and 16 of the Regulation are revoked and the following substituted:

15. The application fee for a licence to act as a sales representative on behalf of an owner, or for the renewal of the licence, is \$115.

1/98

1/98

ONTARIO REGULATION 515/97
made under the
COLLECTION AGENCIES ACT

Made: December 17, 1997
Filed: December 18, 1997

Amending Reg. 74 of R.R.O. 1990
(General)

Note: Regulation 74 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 11 of Regulation 74 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

11. The following fees are payable to the Registrar:

1. \$290, upon application for registration as a collection agency or renewal of the registration.
2. \$290, for each branch office of the collection agency.
3. \$190, upon application for registration as a collector or renewal of the registration.
4. \$25, for written examination of an applicant for registration as a collection agency.

1/98

ONTARIO REGULATION 516/97
made under the
CONSUMER PROTECTION ACT

Made: December 17, 1997
Filed: December 18, 1997

Amending Reg. 176 of R.R.O. 1990
(General)

Note: Regulation 176 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 4 of Regulation 176 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

4. The fee payable to the Registrar upon application for registration as an itinerant seller or renewal of the registration is \$290.

1/98

RÈGLEMENT DE L'ONTARIO 516/97
pris en application de la
LOI SUR LA PROTECTION DU CONSOMMATEUR

pris le 17 décembre 1997
déposé le 18 décembre 1997

modifiant le Règl. 176 des R.R.O. de 1990
(Dispositions générales)

Remarque : Le Règlement 176 n'a pas été modifié en 1997. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. L'article 4 du Règlement 176 des Règlements refondus de l'Ontario de 1990 est abrogé et remplacé par ce qui suit :

4. Les droits à verser au registrateur pour une demande d'inscription ou de renouvellement de l'inscription d'un vendeur itinérant sont de 290 \$.

ONTARIO REGULATION 517/97
made under the
CONSUMER REPORTING ACT

Made: December 17, 1997
Filed: December 18, 1997

Amending Reg. 177 of R.R.O. 1990
(General)

Note: Regulation 177 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 5 of Regulation 177 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

5. The following fees are payable to the Registrar:

1. \$290, upon application for registration as a consumer reporting agency or renewal of the registration.
2. \$290, for each branch office of a consumer reporting agency.
3. \$190, upon application for registration as a personal information investigator or renewal of the registration.

1/98

ONTARIO REGULATION 518/97
made under the
INTERPRETATION ACT

Made: December 17, 1997
Filed: December 18, 1997

Amending Reg. 678 of R.R.O. 1990
(Fees Payable under Various Acts)

Note: Regulation 678 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Section 6 of Regulation 678 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

6. The fee payable upon application to the Registrar for registration as a distributor under subsection 3 (1) of the *Paperback and Periodical Distributors Act*, or for maintenance, is \$190.

1/98

ONTARIO REGULATION 519/97
made under the
ENVIRONMENTAL PROTECTION ACT

Made: December 17, 1997
Filed: December 18, 1997

Amending O. Reg. 189/94
(Refrigerants)

Note: Ontario Regulation 189/94 has not been amended in 1997. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Subsection 21 (4) of Ontario Regulation 189/94 is revoked and the following substituted:

(4) Despite subsection (3), an original certificate issued on or before December 31, 1999 expires on December 31, 1999.

(2) Subsection 21 (6) of the Regulation is amended by striking out "January 1, 1998" in the first line and substituting "January 1, 2000".

(3) Subsection 21 (7) of the Regulation is amended by striking out "January 1, 1998" in the first line and substituting "January 1, 2000".

1/98

ONTARIO REGULATION 520/97
made under the
PLANNING ACT

Made: December 5, 1997
Filed: December 19, 1997

Amending O. Reg. 834/81
(Restricted Areas—Territorial District of Sudbury,
District of Sudbury)

Note: Since January 1, 1997, Ontario Regulation 834/81 has been amended by Ontario Regulations 13/97, 60/97, 61/97, 62/97, 63/97, 64/97, 65/97, 66/97, 70/97, 88/97, 89/97, 90/97, 91/97, 92/97, 93/97, 98/97 and 154/97. For prior amendments, see the Tables of Regulations in the Statutes of Ontario, 1991 and the Statutes of Ontario, 1996.

1. Schedule 6 of Ontario Regulation 834/81 is amended by adding the following section:

2. (1) Despite section 4 of the Order, the land described in subsection (6) is for the purposes of this Order, land in an institutional zone.

(2) Despite subsection 43(1) of the Order, a tourist outfitter is a permitted use on the lands described in subsection (6) provided that such a use shall not include the rental or sale of motorized watercraft.

(3) Notwithstanding section 44 of the Order, the requirements for principal buildings and structures permitted are established as follows:

| | | |
|--------------------------------|-------|---------------|
| (a) Minimum lot area | 1,060 | square metres |
| (b) Minimum lot frontage | 30 | metres |
| (c) Maximum lot coverage | 40 | percent |
| (d) Minimum front yard | 1 | metre |
| (e) Minimum rear yard | 14 | metres |
| (f) Maximum side yards | 2.8 | metres |
| (g) Maximum height of building | 9 | metres |

(4) Notwithstanding section 1 of the Order, the following definitions shall apply for the calculation of meeting the requirements:

(a) "Lot Area" means the total horizontal area within the lot lines of Unit 27.

(b) "Lot Lines" mean the boundaries of Unit 27.

(c) "Front Lot Line" means the lot line having a total length of 38.33 metres that divides Unit 27 from the western portion of the travelled road common element adjacent to Unit 27 of Sudbury Condominium Plan No. 5.

(d) "Street" shall mean a travelled road located on the common element of Sudbury Condominium Plan No. 5.

(5) Notwithstanding Section 18 of the Order, a minimum of 13 parking spaces for off-street vehicular parking are to be provided on Unit 27 and, notwithstanding section 18 of the Order, or any other section or provision of the Order, additional parking spaces may be provided within the adjacent common element to the east of Unit 27 in Sudbury Condominium Plan No. 5.

(6) Subsections (1) through (5) apply to the lands in the geographic Township of Curtin in the Territorial District of Sudbury, being part of Lot 13 on Registered Plan 45-S, more particularly described as Unit 27, Sudbury Condominium Plan No. 5.

KAREN SMITH
Manager

Provincial Planning Services Branch
Ministry of Municipal Affairs and Housing

Dated on December 5, 1997.

1/98

ONTARIO REGULATION 521/97
made under the
ONTARIO ENERGY BOARD ACT

Made: December 18, 1997

Filed: December 19, 1997

EXEMPTIONS—ONTARIO HYDRO

1. Ontario Hydro is exempt from submitting a proposal under subsection 37 (2) of the Act in respect of any of the following changes to the rates or charges applicable to a period ending on December 31, 1998 for a municipal corporation, municipal electric utility commission or industrial customer:

1. Adding the option of power purchases by Ontario Hydro on the interconnected market for Surplus Power or Discount Demand Service rates or charges.
2. Decreasing the net income contribution adder for Surplus Power rates or charges.
3. Decreasing the net income contribution for Real Time Pricing II rates or charges.
4. Adjusting the variable energy prices and peak period adders for Real Time Pricing I rates or charges to maintain the current balance between peak and off-peak price levels.
5. Implementing an upper limit on the average annual price for Real Time Pricing II rates or charges equal to Ontario Hydro's standard time-of-use rates computed on a customer specific basis.
6. Suspending the 20 per cent minimum bill provision for Surplus Power rates or charges.
7. Suspending the weekly, monthly and annual variable energy price options for Real Time Pricing II rates or charges.
8. Suspending the Economic and Export Buy-Through and Week-Ahead Committed Price options for Surplus Power rates or charges.
9. Allowing Surplus Power customers a one-time opportunity to switch to Real Time Pricing II, setting the customer baseline load using the time period originally used to set the Surplus Power customer baseline load.
10. Establishing, for Load Retention and Expansion rates or charges,
 - i. a minimum price limit for firm power sales equal to Real Time Pricing II rates or charges plus an administrative fee, and
 - ii. a minimum price limit for interruptible power sales equal to Surplus Power rates or charges plus an administrative fee.

2. Ontario Regulation 273/97 is revoked.

2/98

Publications under the Regulations Act Publications en vertu de la Loi sur les règlements

1998—01—10

ONTARIO REGULATION 522/97 made under the LIQUOR LICENCE ACT

Made: December 10, 1997

Filed: December 22, 1997

Amending Reg. 719 of R.R.O. 1990
(Licences to Sell Liquor)

Note: Since January 1, 1997, Regulation 719 has been amended by Ontario Regulations 171/97, 305/97 and 347/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Subsections 12 (1) and (3) of Regulation 719 of the Revised Regulations of Ontario, 1990 are revoked and the following substituted:

(3) Subsection (2) does not apply to aircraft, railway cars, boats and the playing area of a golf course.

2. Section 74 of the Regulation is revoked and the following substituted:

74. A dispenser in a room with mini bar service may be restocked at any time.

2/98

ONTARIO REGULATION 523/97 made under the MUNICIPAL ACT

Made: December 22, 1997

Filed: December 22, 1997

TAX RELATED MATTERS

1. For the purpose of section 220 of the Act, the commercial property class and the industrial property class prescribed under the *Assessment Act* are the business property classes.

2. For the purposes of subsections 363 (3) and (4) of the Act, the last date for a municipality to establish tax ratios for 1998 is extended to May 31, 1998.

3. For the purposes of subsections 366 (2) and (3) of the Act, the last date for an upper-tier municipality to pass a by-law directing lower-tier municipalities to levy tax rates in 1998 is extended to May 31, 1998.

4. For the purposes of paragraph 1.1 of subsection 370 (9) of the Act, the prescribed percentage is,

- (a) 25 per cent of the residential mill rate for properties which are designated as "FL" on the 1997 assessment roll as last revised by the assessment commissioner for the purposes of the 1998 interim levy;

- (b) 12.5 per cent of the residential mill rate for properties which are designated as "MF" on the 1997 assessment roll as last revised by the assessment commissioner for the purposes of the 1998 interim levy;

- (c) zero per cent of the residential mill rate for properties which are designated as "CL" on the 1997 assessment roll as last revised by the assessment commissioner for the purposes of the 1998 interim levy.

5. This Regulation comes into force on January 1, 1998.

AL LEACH
Minister of Municipal Affairs and Housing

Dated on December 22, 1997.

2/98

ONTARIO REGULATION 524/97 made under the PLANNING ACT

Made: December 22, 1997

Filed: December 22, 1997

ZONING AREAS—TOWNSHIP OF KING, REGIONAL MUNICIPALITY OF YORK

1. This Order has the effect of amending By-law No. 74-53 of The Corporation of the Township of King.

2. Map No. 5 (Schomberg Area) of Schedule A to By-law 74-53 is amended by changing the zone symbols for the land shown in the Appendix to this Order from "Rural General (RU1)" to "General Industrial (M2)—Exception 17.10" and "Open Space and Conservation (O)—Exception 26.55" as shown in the Appendix, which Appendix shall form part of the By-law.

3. (1) Despite any section of By-law No. 74-53, on the land shown as "Exception—Section 17.10" on Schedule A of the By-law only the following uses are permitted:

1. A manufacturing or industrial establishment.
2. Commercial undertakings incidental to manufacturing.
3. Open storage of goods and materials.
4. Warehouses.
5. A recreational use.
6. All uses permitted in an Industrial Restricted (M1) Zone except that an obnoxious use as defined in subsection 3.103 of the By-law shall not be allowed.

(2) The zoning requirement for the land described in section 5 are as follows:

Minimum side yard - 30 metres

Minimum front yard - 30 metres

(For the purposes of the By-law, the front lot line shall be deemed to be that lot line abutting Highway No. 9.)

Height maximum - 18 metres

Landscaping - 10 metres wide in all required yards

Planting strip - 3.0 metres wide adjacent to all exposed sides of open storage areas

Open storage - permitted only within side yard or rear yard

- maximum area 1.0 ha

Parking - 1 space for each
100 sq. m., for industrial uses

(3) Except as provided in this section, all other provisions relating to the General Industrial (M2) Zone continue to apply.

4. (1) Despite any section of By-law No. 74-53, on the land shown as "Exception—Section 26.55" on Schedule A of the By-law only the following uses are permitted:

1. Bird and animal sanctuaries.

2. Golf courses.

3. Public and private parks.

4. Walking trails.

5. An area for the protection of an environmental hazard such as land liable to flood or subject to very high water, steep slopes, gullies or land subject to wind or water erosion.

6. A conservation area primarily for the location of flood control, bank stabilization or erosion protection structures or projects.

(2) The northerly limits of the "Open Space and Conservation (O)" Zone shall be deemed to be the regional storm floodline established by the Lake Simcoe Region Conservation Authority as it applies to the land described in section 5.

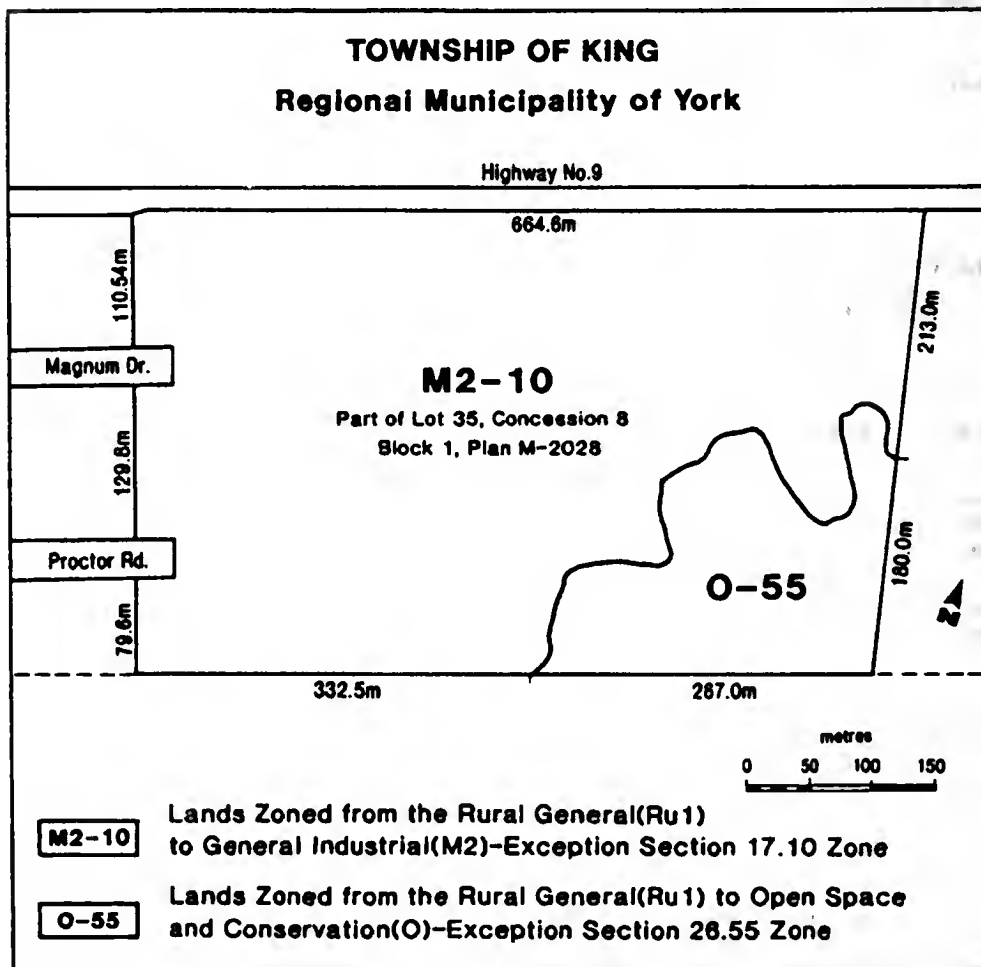
5. This Order applies to the land in the Township of King in the Regional Municipality of York described as Part of Lot 35, Concession 8, more particularly as Block 1, Plan M-2028, except Part 1, Plan 65R-17077, being all of Parcel 1-1, Section M-2028 in the Land Registry Office for the Registry Division of York (No. 65) [Property Identifier 03399-0043 (LT)].

6. This Order comes into force on January 1, 1998.

AL LEACH
Minister of Municipal Affairs and Housing

Dated on December 22, 1997.

Appendix



ONTARIO REGULATION 525/97**made under the
PLANNING ACT**

Made: December 22, 1997

Filed: December 22, 1997

**EXEMPTION FROM APPROVAL
(OFFICIAL PLAN AMENDMENTS)**

1. (1) All amendments to the official plan of a municipality or planning board listed in the Schedule that were commenced on or after the corresponding date set out in the Schedule are exempt from the approval of the Minister.

(2) For the purposes of subsection (1), an official plan amendment shall be deemed to be commenced,

- (a) on the date that notice is given of the first public meeting held under subsection 17 (15) of the Act with respect to the amendment; or
- (b) in the case of an official plan amendment requested under subsection 22 (1) of the Act, the date the request was received.

(3) The exemption is subject to the following conditions:

- 1. The municipality shall provide a copy of the proposed official plan amendment to the Minister during consultation under clause 17 (15) (a) of the Act.
- 2. The municipality shall provide a copy of a sworn declaration made under subsection 17 (28) of the Act to the Minister within 15 days of it being sworn.
- 3. A copy of the record compiled under subsection 17 (29) or 22 (9) of the Act shall be forwarded to the Minister at the same time it is forwarded to the Municipal Board.

(4) The exemption is not terminated because a municipality does not meet a condition set out in subsection (3).

**RÈGLEMENT DE L'ONTARIO 525/97
pris en application de la
LOI SUR L'AMÉNAGEMENT DU TERRITOIRE**

pris le 22 décembre 1997

déposé le 22 décembre 1997

**EXEMPTION DE L'APPROBATION
(MODIFICATION D'UN PLAN OFFICIEL)**

1. (1) Toute modification du plan officiel d'une municipalité ou d'un conseil d'aménagement figurant à l'annexe qui a été entreprise à la date correspondante indiquée à l'annexe ou par la suite est soustraite à l'exigence voulant qu'elle reçoive l'approbation du ministre.

(2) Pour l'application du paragraphe (1), une modification d'un plan officiel est réputée entreprise, selon le cas :

- a) à la date à laquelle est donné l'avis de la première réunion publique tenue aux termes du paragraphe 17 (15) de la Loi relativement à la modification;
- b) dans le cas d'une modification d'un plan officiel demandée aux termes du paragraphe 22 (1) de la Loi, à la date de la réception de la demande.

(3) L'exemption est assujettie aux conditions suivantes :

- 1. La municipalité fournit une copie de la modification proposée au plan officiel au ministre au cours de la consultation visée à l'alinéa 17 (15) a) de la Loi.
- 2. La municipalité fournit une copie de la déclaration sous serment faite aux termes du paragraphe 17 (28) de la Loi au ministre au plus tard 15 jours après qu'elle a été faite.
- 3. Une copie du dossier constitué aux termes du paragraphe 17 (29) ou 22 (9) de la Loi est transmise au ministre en même temps qu'à la Commission des affaires municipales.

(4) Il n'est pas mis fin à l'exemption du fait qu'une municipalité ne satisfait pas à une condition énoncée au paragraphe (3).

Schedule/Annexe

| Municipality | Date | Municipalité | Date |
|--------------------------|------------------|--------------------------|-----------------|
| City of Barrie | January 19, 1998 | Cité de Barrie | 19 janvier 1998 |
| City of Brantford | January 19, 1998 | Cité de Brantford | 19 janvier 1998 |
| City of Brockville | January 19, 1998 | Cité de Brockville | 19 janvier 1998 |
| City of Cornwall | January 19, 1998 | Cité de Cornwall | 19 janvier 1998 |
| City of Elliot Lake | January 19, 1998 | Cité d'Elliot Lake | 19 janvier 1998 |
| City of Guelph | January 19, 1998 | Cité de Guelph | 19 janvier 1998 |
| City of London | January 19, 1998 | Cité de London | 19 janvier 1998 |
| City of North Bay | January 19, 1998 | Cité de North Bay | 19 janvier 1998 |
| City of Orillia | January 19, 1998 | Cité d'Orillia | 19 janvier 1998 |
| City of Owen Sound | January 19, 1998 | Cité d'Owen Sound | 19 janvier 1998 |
| City of Pembroke | January 19, 1998 | Cité de Pembroke | 19 janvier 1998 |
| City of Peterborough | January 19, 1998 | Cité de Peterborough | 19 janvier 1998 |
| City of Sault Ste. Marie | January 19, 1998 | Cité de Sault Ste. Marie | 19 janvier 1998 |
| City of Stratford | January 19, 1998 | Cité de Stratford | 19 janvier 1998 |
| City of St. Thomas | January 19, 1998 | Cité de St. Thomas | 19 janvier 1998 |
| City of Thunder Bay | January 19, 1998 | Cité de Thunder Bay | 19 janvier 1998 |

| | | | |
|---|------------------|--|-----------------|
| City of Timmins | January 19, 1998 | Cité de Timmins | 19 janvier 1998 |
| City of Windsor | January 19, 1998 | Cité de Windsor | 19 janvier 1998 |
| District Municipality of Muskoka | January 19, 1998 | Municipalité de district de Muskoka | 19 janvier 1998 |
| Regional Municipality of Durham | January 19, 1998 | Municipalité régionale de Durham | 19 janvier 1998 |
| Regional Municipality of Haldimand-Norfolk | January 19, 1998 | Municipalité régionale de Haldimand-Norfolk | 19 janvier 1998 |
| Regional Municipality of Halton | January 19, 1998 | Municipalité régionale de Halton | 19 janvier 1998 |
| Regional Municipality of Hamilton-Wentworth | January 19, 1998 | Municipalité régionale de Hamilton-Wentworth | 19 janvier 1998 |
| Regional Municipality of Niagara | January 19, 1998 | Municipalité régionale de Niagara | 19 janvier 1998 |
| Regional Municipality of Ottawa-Carleton | January 19, 1998 | Municipalité régionale d'Ottawa-Carleton | 19 janvier 1998 |
| Regional Municipality of Peel | January 19, 1998 | Municipalité régionale de Peel | 19 janvier 1998 |
| Regional Municipality of Sudbury | January 19, 1998 | Municipalité régionale de Sudbury | 19 janvier 1998 |
| Regional Municipality of Waterloo | January 19, 1998 | Municipalité régionale de Waterloo | 19 janvier 1998 |
| Regional Municipality of York | January 19, 1998 | Municipalité régionale de York | 19 janvier 1998 |
| Restructured County of Oxford | January 19, 1998 | Comté restructuré d'Oxford | 19 janvier 1998 |
| Town of Orangeville | January 19, 1998 | Ville d'Orangeville | 19 janvier 1998 |

AL LEACH

Minister of Municipal Affairs and Housing

AL LEACH

Ministre des Affaires municipales et du Logement

Dated on December 22, 1997.

Fait le 22 décembre 1997.

2/98

ONTARIO REGULATION 526/97

made under the

PLANNING ACT

Made: December 22, 1997

Filed: December 22, 1997

PINE RIDGE MUNICIPAL PLANNING AGENCY

1. The council of the following local municipalities shall each appoint one member to the Pine Ridge Municipal Planning Agency:

- Township of Alnwick
- Town of Brighton
- Township of Brighton
- Village of Colborne
- Township of Cramahe

- Township of Cramahe
- Township of Haldimand
- Township of Hamilton
- Township of Hope

- 2. Ontario Regulation 6/97 is revoked.
- 3. This Regulation comes into force on January 1, 1998.

AL LEACH

Minister of Municipal Affairs and Housing

Dated on December 22, 1997.

2/98

ONTARIO REGULATION 527/97
made under the
PLANNING ACT

Made: December 22, 1997
Filed: December 22, 1997

**WITHDRAWAL OF DELEGATED AUTHORITY
(QUINTE-EAST NORTHUMBERLAND MUNICIPAL
PLANNING AUTHORITY)**

1. (1) The delegation of the Minister's authority to the Quinte-East Northumberland municipal planning authority under the following provisions is withdrawn with respect to all applications made on or after December 31, 1997 for land in the Village of Frankford, the Township of Sidney and the Township of Ameliasburgh:

1. Subsection 50 (18) of the Act, to give approvals.
2. Section 51 of the Act, to approve a plan of subdivision.
3. Section 53 of the Act, to give consents.
4. Section 57 of the Act, to issue a certificate of validation.
5. Section 50 of the *Condominium Act*, to approve or exempt condominium descriptions.
6. Subsection 305 (2) of the *Municipal Act*.
7. Subsection 88 (3) of the *Registry Act*.
8. Section 146 of the *Land Titles Act*.

(2) The delegation of the Minister's authority under subsection 297 (10) of the *Municipal Act* to the Quinte-East Northumberland municipal planning authority is withdrawn with respect to all by-laws passed on or after December 31, 1997 for land in the Village of Frankford, the Township of Sidney and the Township of Ameliasburgh.

2. (1) The delegation of the Minister's authority to the Quinte-East Northumberland municipal planning authority under the following provisions is withdrawn with respect to all applications made on or after December 31, 1997 for land in the Township of Murray:

1. Section 51 of the Act.
2. Section 50 of the *Condominium Act*.
3. Subsection 305 (2) of the *Municipal Act*.
4. Subsection 88 (3) of the *Registry Act*.
5. Section 146 of the *Land Titles Act*.

(2) The authority of the Minister under subsection 297 (10) of the *Municipal Act* is withdrawn with respect to all by-laws passed on or after December 31, 1997 for land in the Township of Murray.

3. The delegation of the Minister's authority under section 51 of the *Planning Act* and section 50 of the *Condominium Act* to the Quinte-East Northumberland municipal planning authority is withdrawn with respect to applications made before December 31, 1997 whose file numbers are set out in Schedule 1.

4. The delegation of the Minister's authority under section 53 of the *Planning Act* to the Quinte-East Northumberland municipal planning authority is withdrawn with respect to applications made before December 31, 1997 whose file numbers are set out in Schedule 2.

5. This Regulation comes into force on December 31, 1997.

Schedule 1

Township of Ameliasburgh

| | |
|------------|-------------|
| 13-T-89006 | 13-QT-97001 |
| 13-T-90001 | 13-QT-97002 |
| 13-T-93001 | |

Township of Murray

| | |
|------------|------------|
| 14 T 89021 | 14 T 91015 |
| 14 T 90008 | 14 T 92005 |
| 14 T 90017 | 14 T 93003 |
| 14 T 91002 | 14 T 93004 |
| 14 T 91002 | |

Township of Sidney

12 T 89011
12 QT 97001

Village of Frankford

12 T 81003
12 T 96001

Schedule 2

Township of Ameliasburgh

| | |
|-----------|-----------|
| B1/97 AM | B31/97 AM |
| B3/97 AM | B33/97 AM |
| B4/97 AM | B34/97 AM |
| B7/97 AM | B41/97 AM |
| B9/97 AM | B42/97 AM |
| B13/97 AM | B46/97 AM |
| B14/97 AM | B47/97 AM |
| B15/97 AM | B48/97 AM |
| B16/97 AM | B49/97 AM |
| B17/97 AM | B51/97 AM |
| B20/97 AM | B54/97 AM |
| B21/97 AM | B56/97 AM |
| B23/97 AM | B57/97 AM |
| B26/97 AM | B58/97 AM |
| B30/97 AM | B59/97 AM |

Township of Sidney

| | |
|------------|------------|
| B2/97 SID | B50/97 SID |
| B32/97 SID | B52/97 SID |
| B39/97 SID | B55/97 SID |
| B43/97 SID | B60/97 SID |
| B45/97 SID | B61/97 SID |

Village of Frankford

| | |
|-----------|-----------|
| B35/97 FR | B38/97 FR |
| B36/97 FR | B53/97 FR |
| B37/97 FR | |

AL LEACH
Minister of Municipal Affairs and Housing

Dated on December 22, 1997.

2/98

ONTARIO REGULATION 528/97
made under the
PLANNING ACT

Made: December 22, 1997
Filed: December 22, 1997

DELEGATION OF AUTHORITY
(TOWNSHIP OF SIDNEY, TOWNSHIP OF MURRAY
AND VILLAGE OF FRANKFORD)

1. (1) The authority of the Minister under subsection 305 (2) of the *Municipal Act*, subsection 88 (3) of the *Registry Act* and section 146 of the *Land Titles Act* is delegated to the council of The Corporation of the Village of Frankford with respect to all applications made on or after December 31, 1997 for land in the Village of Frankford.

(2) The authority of the Minister under subsection 297 (10) of the *Municipal Act* is delegated to the council of The Corporation of the Village of Frankford with respect to all by-laws passed on or after December 31, 1997 for land in the Village of Frankford.

2. All authority of the Minister under section 51 of the Act to approve a plan of subdivision and section 50 of the *Condominium Act* to approve or exempt a condominium description is delegated to the council of The Corporation of the Village of Frankford with respect to applications made before December 31, 1997 whose file numbers are set out in section 1 of Schedule 1.

3. All authority of the Minister under section 53 of the Act to give consents is delegated to the council of The Corporation of the Village of Frankford with respect to applications made before December 31, 1997 whose file numbers are set out in section 1 of Schedule 2.

4. (1) The authority of the Minister under subsection 305 (2) of the *Municipal Act*, subsection 88 (3) of the *Registry Act* and section 146 of the *Land Titles Act* is delegated to the council of The Corporation of the Township of Sidney with respect to all applications made on or after December 31, 1997 for land in the Township of Sidney.

(2) The authority of the Minister under subsection 297 (10) of the *Municipal Act* is delegated to the council of The Corporation of the

Township of Sidney with respect to all by-laws passed on or after December 31, 1997 for land in the Township of Sidney.

5. All authority of the Minister under section 51 of the Act to approve a plan of subdivision and section 50 of the *Condominium Act* to approve or exempt a condominium description is delegated to the council of The Corporation of the Township of Sidney with respect to applications made before December 31, 1997 whose file numbers are set out in section 2 of Schedule 1.

6. All authority of the Minister under section 53 of the Act to give consents is delegated to the council of The Corporation of the Township of Sidney with respect to applications made before December 31, 1997 whose file numbers are set out in section 2 of Schedule 2.

7. (1) The authority of the Minister under subsection 305 (2) of the *Municipal Act*, subsection 88 (3) of the *Registry Act* and section 146 of the *Land Titles Act* is delegated to the council of The Corporation of the Township of Murray with respect to all applications made on or after December 31, 1997 for land in the Township of Murray.

(2) The authority of the Minister under subsection 297 (10) of the *Municipal Act* is delegated to the council of The Corporation of the Township of Murray with respect to all by-laws passed on or after December 31, 1997 in the Township of Murray.

8. All authority of the Minister under section 51 of the Act to approve a plan of subdivision and section 50 of the *Condominium Act* to approve or exempt a condominium description is delegated to the council of The Corporation of the Township of Murray with respect to applications made before December 31, 1997 whose file numbers are set out in section 3 of Schedule 1.

9. (1) If any authority delegated under this Regulation is further delegated to a committee of the council or to an appointed officer under subsection 5 (1) of the Act, the council shall forward to the Minister a certified copy of the delegation by-law within 15 days of its passing.

(2) A further delegation of authority is not terminated by reason only that the condition set out in subsection (1) is not complied with.

10. This Regulation comes into force on December 31, 1997.

Schedule 1

1. Village of Frankford

12 T 81003

12 T 96001

2. Township of Sidney

12 T 89011

12 QT 97001

3. Township of Murray

14 T 89021

14 T 90008

14 T 90017

14 T 91002

14 T 91015

14 T 92005

14 T 93003

14 T 93004

Schedule 2**1. Village of Frankford**

| | |
|-----------|-----------|
| B35/97 FR | B38/97 FR |
| B36/97 FR | B53/97 FR |
| B37/97 FR | |

2. Township of Sidney

| | |
|------------|------------|
| B2/97 SID | B50/97 SID |
| B32/97 SID | B52/97 SID |
| B39/97 SID | B55/97 SID |
| B43/97 SID | B60/97 SID |
| B45/97 SID | B61/97 SID |

AL LEACH

Minister of Municipal Affairs and Housing

Dated on December 22, 1997.

2/98

ONTARIO REGULATION 529/97
made under the
PLANNING ACT

Made: December 22, 1997
Filed: December 22, 1997

DELEGATION OF AUTHORITY
(TOWNSHIP OF AMELIASBURGH)

1. (1) The authority of the Minister under the following provisions is delegated to the council of The Corporation of the Township of Ameliasburgh with respect to all applications made on or after December 31, 1997 for land in the Township of Ameliasburgh:

1. Subsection 50 (18) of the Act, to give approvals.
2. Section 51 of the Act, to approve a plan of subdivision.
3. Section 53 of the Act, to give consents.
4. Section 57 of the Act, to issue a certificate of validation.
5. Section 50 of the *Condominium Act*, to approve or exempt condominium descriptions.
6. Subsection 305 (2) of the *Municipal Act*.
7. Subsection 88 (3) of the *Registry Act*.
8. Section 146 of the *Land Titles Act*.

(2) The authority of the Minister under subsection 297 (10) of the *Municipal Act* is delegated to the council of The Corporation of the

Township of Ameliasburgh with respect to all by-laws passed on or after December 31, 1997 for land in the Township of Ameliasburgh.

2. All authority of the Minister under section 51 of the Act to approve a plan of subdivision and section 50 of the *Condominium Act* to approve or exempt a condominium description is delegated to the council of The Corporation of the Township of Ameliasburgh with respect to applications made before December 31, 1997 whose file numbers are set out in Schedule 1.

3. All authority of the Minister under section 53 of the Act to give consents is delegated to the council of The Corporation of the Township of Ameliasburgh with respect to applications made before December 31, 1997 whose file numbers are set out in the Schedule 2.

4. (1) If any authority delegated under section 1, 2 or 3 is further delegated to a committee of the council or to an appointed officer under subsection 5 (1) of the Act, the council shall forward to the Minister a certified copy of the delegation by-law within 15 days of its passing.

(2) A further delegation of authority is not terminated by reason only that the condition set out in subsection (1) is not complied with.

5. This Regulation comes into force on December 31, 1997.

Schedule 1

| | |
|------------|-------------|
| 13-T-89006 | 13-QT-97001 |
| 13-T-90001 | 13-QT-97002 |
| 13-T-93001 | |

Schedule 2

| | |
|-----------|-----------|
| B1/97 AM | B31/97 AM |
| B3/97 AM | B33/97 AM |
| B4/97 AM | B34/97 AM |
| B7/97 AM | B41/97 AM |
| B9/97 AM | B42/97 AM |
| B13/97 AM | B46/97 AM |
| B14/97 AM | B47/97 AM |
| B15/97 AM | B48/97 AM |
| B16/97 AM | B49/97 AM |
| B17/97 AM | B51/97 AM |
| B20/97 AM | B54/97 AM |
| B21/97 AM | B56/97 AM |
| B23/97 AM | B57/97 AM |
| B26/97 AM | B58/97 AM |
| B30/97 AM | B59/97 AM |

AL LEACH

Minister of Municipal Affairs and Housing

Dated on December 22, 1997.

2/98

ONTARIO REGULATION 530/97
made under the
PLANNING ACT

Made: December 22, 1997
Filed: December 22, 1997

DELEGATION OF AUTHORITY
(TOWN OF PORT HOPE)

1. (1) The authority of the Minister under the following provisions is delegated to the council of The Corporation of the Town of Port Hope with respect to all applications made on or after January 1, 1998 for land in the Town of Port Hope:

1. Section 51 of the Act, to approve a plan of subdivision.
2. Section 50 of the *Condominium Act*, to approve or exempt a condominium description.
3. Subsection 305 (2) of the *Municipal Act*.
4. Subsection 88 (3) of the *Registry Act*.
5. Section 146 of the *Land Titles Act*.

(2) The authority of the Minister under subsection 297 (10) of the *Municipal Act* is delegated to the council of The Corporation of the Town of Port Hope with respect to all by-laws passed on or after January 1, 1998 for land in the Town of Port Hope.

2. All authority of the Minister under section 51 of the Act to approve a plan of subdivision and section 50 of the *Condominium Act* to approve or exempt a condominium description is delegated to the council of The Corporation of the Town of Port Hope with respect to applications made before January 1, 1998 whose file numbers are set out in the Schedule.

3. (1) If any authority delegated under section 1 or 2 is in turn delegated to a committee of the council or to an appointed officer under subsection 5 (1) of the Act, the council shall forward to the Minister a certified copy of the by-law within 15 days of its passing.

(2) The delegations of authority set out in this Regulation are not terminated by reason only that the condition set out in subsection (1) is not complied with.

4. This Regulation comes into force on January 1, 1998.

Schedule

| | |
|------------|------------|
| 14-T-89017 | 14-T-95006 |
| 14-T-91006 | 14-T-97002 |
| 14-T-95003 | 14-T-97003 |

AL LEACH
Minister of Municipal Affairs and Housing

Dated on December 22, 1997.

2/98

ONTARIO REGULATION 531/97
made under the
REGISTRY ACT

Made: December 22, 1997
Filed: December 22, 1997

OFFICE HOURS

1. Despite any other Regulation, the Land Registry Office for the Registry Division of Sudbury (No. 53) and for the Land Titles Division of Sudbury (No. 53) shall be kept open from 9:30 a.m. until 3:00 p.m., local time, on December 22, 1997.

2. This Regulation is revoked on December 23, 1997.

BEKIR KAYA
Deputy Director of Land Registration

Dated on December 22, 1997.

2/98

ONTARIO REGULATION 532/97
made under the
PLANNING ACT

Made: December 22, 1997
Filed: December 23, 1997

DELEGATION OF AUTHORITY TO
MUNICIPALITY OF CHATHAM-KENT

1. The Minister's authority under section 51 of the Act to approve plans of subdivision and section 50 of the *Condominium Act* to approve or exempt condominium descriptions is delegated to the council of the Municipality of Chatham-Kent in respect of all the land situate in the municipality.

2. (1) The Minister's authority to give approval under section 51 of the Act as it read on March 27, 1995 and continued by section 74.1 of the Act is delegated to the council of the Municipality of Chatham-Kent with respect to applications for approval of plans of subdivision whose file numbers are set out in Schedule 1.

(2) The Minister's authority to give approval under section 51 of the Act as it read on March 27, 1995 and continued by section 74.1 of the Act is delegated to the council of the Municipality of Chatham-Kent with respect to applications for approval or exemption of condominium descriptions whose file numbers are set out in Schedule 2.

3. (1) The authority of the Minister under subsection 297 (10) of the *Municipal Act* to approve by-laws under clause 297 (1) (b) or (c) of the *Municipal Act* in respect of any highway or part of a highway shown on a registered plan of subdivision registered after March 27, 1946 is delegated to the council of the Municipality of Chatham-Kent in respect of all the land situate in the municipality.

(2) The delegation does not apply to a by-law passed under clauses 297(1) (b) or (c) of the *Municipal Act* before January 1, 1998 by the council of the County of Kent or of a municipality that formed part of the County of Kent for municipal purposes.

4. (1) The authority of the Minister under subsection 305 (2) of the *Municipal Act* to approve the laying out of highways less than 20 metres in width is delegated to the council of the Municipality of Chatham-Kent in respect of all the land situate in the municipality.

(2) The delegation does not apply to any application for an approval under subsection 305 (2) of the *Municipal Act* made in respect of land in the County of Kent before January 1, 1998.

5. (1) The authority of the Minister under subsection 88 (3) of the *Registry Act* and section 146 of the *Land Titles Act* to give his or her consent to orders amending plans of subdivision registered after March 26, 1946 is delegated to the council of the Municipality of Chatham-Kent in respect of all the land situate in the municipality.

(2) The delegation does not apply to any application for a consent under subsection 88 (3) of the *Registry Act* and section 146 of the *Land Titles Act* made in respect of land in the County of Kent before January 1, 1998.

6. (1) If any of the authority delegated to the council is in turn delegated by the council to a committee of council or an appointed officer under subsection 5 (1) of the Act, the council shall forward to the Minister a certified copy of the delegating by-law within 15 days of its passing.

(2) The delegation of authority set out in this Regulation is not terminated by reason only that subsection (1) is not complied with.

7. This Regulation comes into force on January 1, 1998.

Schedule 1

FILE NUMBERS OF APPLICATIONS FOR APPROVAL OF PLANS OF SUBDIVISION

| | |
|------------|------------|
| 36-T-82001 | 36-T-90005 |
| 36-T-84002 | 36-T-90006 |
| 36-T-84006 | 36-T-92001 |
| 36-T-85003 | 36-T-95001 |
| 36-T-86002 | 36-T-96004 |
| 36-T-86006 | 36-T-97001 |
| 36-T-87001 | 36-T-97002 |
| 36-T-87002 | |

Schedule 2

FILE NUMBER OF AN APPLICATION FOR APPROVAL OR EXEMPTION OF A PLAN OF CONDOMINIUM

36-CD-94001

AL LEACH
Minister of Municipal Affairs and Housing

Dated on December 22, 1997.

2/98

ONTARIO REGULATION 533/97 made under the PLANNING ACT

Made: December 22, 1997
Filed: December 24, 1997

Amending O. Reg. 136/95
(Delegation of Authority of Minister to Give Consents)

Note: Since January 1, 1997, Ontario Regulation 136/95 has been amended by Ontario Regulations 86/97 and 99/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. (1) Paragraph 2 of Schedule 1 to Ontario Regulation 136/95 is revoked and the following substituted:

2. The Town of Espanola.

(2) Paragraphs 19 and 20 of Schedule 1 to the Regulation are revoked.

(3) Schedule 1 to the Regulation is amended by adding the following paragraphs:

21.1 The Township of Seguin.

24. The Municipality of Oliver Paipoonge.

25. The Municipality of Temagami.

2. Paragraphs 3, 4, 7 and 16.2 of Schedule 2 to the Regulation are revoked.

3. This Regulation comes into force on January 1, 1998.

AL LEACH
Minister of Municipal Affairs and Housing

Dated on December 22, 1997.

2/98

Publications under the Regulations Act Publications en vertu de la Loi sur les règlements

1998—01—17

ONTARIO REGULATION 534/97 made under the MUNICIPAL ACT

Made: December 24, 1997
Filed: December 29, 1997

Amending O. Reg. 523/97
(Tax Related Matters)

Note: Ontario Regulation 523/97 has not previously been amended.

1. Ontario Regulation 523/97 is amended by adding the following French version:

QUESTIONS AYANT TRAIT AUX IMPÔTS

1. Pour l'application de l'article 220 de la Loi, la catégorie des biens commerciaux et la catégorie des biens industriels prescrites aux termes de la *Loi sur l'évaluation foncière* constituent les catégories des biens commerciaux.

2. Pour l'application des paragraphes 363 (3) et (4) de la Loi, le délai prévu pour la fixation par une municipalité des coefficients d'impôt pour 1998 est prorogé jusqu'au 31 mai 1998.

3. Pour l'application des paragraphes 366 (2) et (3) de la Loi, le délai prévu pour la prise par une municipalité de palier supérieur d'un règlement municipal ordonnant aux municipalités de palier inférieur de prélever des impôts en 1998 est prorogé jusqu'au 31 mai 1998.

4. Pour l'application de la disposition 1.1 du paragraphe 370 (9) de la Loi, le pourcentage prescrit est le suivant aux fins de l'impôt provisoire de 1998 :

RÈGLEMENT DE L'ONTARIO 534/97 pris en application de la LOI SUR LES MUNICIPALITÉS

pris le 24 décembre 1997
déposé le 29 décembre 1997

modifiant le Règl. de l'Ont. 523/97
(Questions ayant trait aux impôts)

Remarque : Le Règlement de l'Ontario 523/97 n'a pas été modifié antérieurement.

1. Le Règlement de l'Ontario 523/97 est modifié par adjonction de la version française suivante :

a) 25 pour cent du taux du millième applicable aux propriétés résidentielles désignées par les lettres «FL» dans le rôle d'évaluation de 1997 révisé le plus récemment par le commissaire à l'évaluation;

b) 12,5 pour cent du taux du millième applicable aux propriétés résidentielles désignées par les lettres «MF» dans le rôle d'évaluation de 1997 révisé le plus récemment par le commissaire à l'évaluation;

c) zéro pour cent du taux du millième applicable aux propriétés résidentielles désignées par les lettres «CL» dans le rôle d'évaluation de 1997 révisé le plus récemment par le commissaire à l'évaluation.

5. Le présent règlement entre en vigueur le 1^{er} janvier 1998.

AL LEACH
Minister of Municipal Affairs and Housing
Ministre des Affaires municipales et du Logement

Dated on December 24, 1997.
Fait le 24 décembre 1997.

ONTARIO REGULATION 535/97
made under the
AGGREGATE RESOURCES ACT

Made: December 4, 1997
Filed: December 31, 1997

Amending O. Reg. 244/97
(General)

Note: Ontario Regulation 244/97 has not previously been amended.

1. Schedule 2 to Ontario Regulation 244/97 is amended by adding the following sections:

5. Those parts of the Territorial District of Algoma consisting of,
 - (a) the townships of Hilton, Jocelyn, Johnson, Laird, Macdonald, Meredith and Aberdeen Additional, St. Joseph, Tarbutt and Tarbutt Additional; and
 - (b) the geographical townships of Anderson, Archibald, Chesley Additional, Dennis, Deroche, Duncan, Fenwick, Fisher, Gaudette, Havilland, Herrick, Hodgins, Jarvis, Kars, Kehoe, Ley, Pennefather, Aweres, Shields, Tilley, Tupper and VanKoughnet.
6. Those parts of the Territorial District of Sudbury consisting of,
 - (a) the townships of Hagar and Nairn; and
 - (b) the geographical townships of Appleby, Awrey, Baldwin, Burwash, Cartier, Cascaden, Casimir, Cleland, Cosby, Curtin, Delamere, Dunnet, Eden, Foster, Foy, Gough, Hallam, Harrow, Harty, Hawley, Hendrie, Henry, Hess, Hoskin, Hyman, Jennings, Laura, Loughrin, May, McKinnon, Merritt, Mongowin, Ratter, Secord, Servos, Shakespeare, Street and Tilton.

3/98

ONTARIO REGULATION 536/97
made under the
PROVINCIAL OFFENCES ACT

Made: December 17, 1997
Filed: December 31, 1997

Amending Reg. 950 of R.R.O. 1990
(Proceedings Commenced by Certificate of Offence)

Note: Since January 1, 1997, Regulation 950 has been amended by Ontario Regulations 109/97, 180/97, 234/97 and 344/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Schedule 43 to Regulation 950 of the Revised Regulations of Ontario, 1990 is amended by inserting the following items:

| | | |
|-------|---|----------------------|
| 542.1 | Fail to report accident—specified location | subsection 199 (1.1) |
| 542.2 | Fail to furnish required information | subsection 199 (1.1) |
| 542.1 | Omettre de déclarer un accident — endroit précisé | paragraphe 199 (1.1) |
| 542.2 | Omettre de fournir les renseignements exigés | paragraphe 199 (1.1) |

3/98

RÈGLEMENT DE L'ONTARIO 535/97
pris en application de la
LOI SUR LES RESSOURCES EN AGRÉGATS

pris le 4 décembre 1997
déposé le 31 décembre 1997

modifiant le Règl. de l'Ont. 244/97
(Dispositions générales)

Remarque : Le Règlement de l'Ontario 244/97 n'a pas été modifié antérieurement.

1. L'annexe 2 du Règlement de l'Ontario 244/97 est modifiée par adjonction des articles suivants :

5. Les parties suivantes du district territorial d'Algoma :
 - a) les cantons de Hilton, de Jocelyn, de Johnson, de Laird, de Macdonald, Meredith et Aberdeen Additional, de St. Joseph, de Tarbutt et Tarbutt Additional;
 - b) les cantons géographiques d'Anderson, d'Archibald, de Chesley Additional, de Dennis, de Deroche, de Duncan, de Fenwick, de Fisher, de Gaudette, de Havilland, de Herrick, de Hodgins, de Jarvis, de Kars, de Kehoe, de Ley, de Pennefather, d'Aweres, de Shields, de Tilley, de Tupper et de VanKoughnet.
6. Les parties suivantes du district territorial de Sudbury :
 - a) les cantons de Hagar et de Nairn;
 - b) les cantons géographiques d'Appleby, d'Awrey, de Baldwin, de Burwash, de Cartier, de Cascaden, de Casimir, de Cleland, de Cosby, de Curtin, de Delamere, de Dunnet, d'Eden, de Foster, de Foy, de Gough, de Hallam, de Harrow, de Harty, de Hawley, de Hendrie, de Henry, de Hess, de Hoskin, de Hyman, de Jennings, de Laura, de Loughrin, de May, de McKinnon, de Merritt, de Mongowin, de Ratter, de Secord, de Servos, de Shakespeare, de Street et de Tilton.

RÈGLEMENT DE L'ONTARIO 536/97
pris en application de la
LOI SUR LES INFRACTIONS PROVINCIALES

pris le 17 décembre 1997
déposé le 31 décembre 1997

modifiant le Règl. 950 des R.R.O. de 1990
(Instances introduites au moyen du dépôt
d'un procès-verbal d'infraction)

Remarque : Depuis le 1^{er} janvier 1997, le Règlement 950 a été modifié par les Règlements de l'Ontario 109/97, 180/97, 234/97 et 344/97. Pour les modifications antérieures, voir la Table des règlements qui figure dans les Lois de l'Ontario de 1996.

1. L'annexe 43 du Règlement 950 des Règlements refondus de l'Ontario de 1990 est modifiée par insertion des numéros suivants :

ONTARIO REGULATION 537/97
made under the
HIGHWAY TRAFFIC ACT

Made: December 17, 1997
Filed: December 31, 1997

Amending Reg. 596 of R.R.O. 1990
(General)

Note: Regulation 596 has not previously been amended.

1. Section 11 of Regulation 596 of the Revised Regulations of Ontario, 1990 is revoked and the following substituted:

11. For the purpose of subsection 199 (1) of the Act, the prescribed amount for damage to property is \$1,000.

3/98

ONTARIO REGULATION 538/97
made under the
HIGHWAY TRAFFIC ACT

Made: December 17, 1997
Filed: December 31, 1997

Amending O. Reg. 339/94
(Demerit Point System)

Note: Since January 1, 1997, Ontario Regulation 339/94 has been amended by Ontario Regulation 331/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Item 11 of the Table to Ontario Regulation 339/94 is amended by striking out "Section 199" in Column 1 and substituting "Subsections 199 (1) and (1.1)".

3/98

ONTARIO REGULATION 539/97
made under the
LOCAL ROADS BOARDS ACT

Made: December 31, 1997
Filed: December 31, 1997

Amending Reg. 735 of R.R.O. 1990
(Establishment of Local Roads Areas—Northwestern Region)

Note: Since January 1, 1997, Regulation 735 has been amended by Ontario Regulations 8/97, 187/97, 192/97 and 362/97. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Schedules 31, 52, 58, 89, 90, 98 and 121 of Regulation 735 of the Revised Regulations of Ontario, 1990 are revoked.

2. This Regulation comes into force on January 1, 1998.

TONY P. CLEMENT
Minister of Transportation

Dated on December 31, 1997.

3/98

ONTARIO REGULATION 540/97
made under the
LOCAL ROADS BOARDS ACT

Made: December 31, 1997
Filed: December 31, 1997

Amending Reg. 734 of R.R.O. 1990
(Establishment of Local Roads Areas—
Northern and Eastern Regions)

Note: Since January 1, 1997, Regulation 734 has not been amended. For prior amendments, see the Table of Regulations in the Statutes of Ontario, 1996.

1. Schedules 22, 49, 62, 83, 85, 99, 110, 111 and 116 of Regulation 734 of the Revised Regulations of Ontario, 1990 are revoked.

2. This Regulation comes into effect on January 1, 1998.

TONY P. CLEMENT
Minister of Transportation

Dated on December 31, 1997.

3/98



TABLE OF REGULATIONS

TABLE DES RÈGLEMENTS

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TABLE OF REGULATIONS

The Table of Regulations shows the regulations contained in the Revised Regulations of Ontario, 1990 and those made after December 31, 1990 and before January 1, 1998. It also shows the amendments to those regulations.

Most of the listings are in English only. Some regulations have an official French version. Bilingual regulations are indicated by a bilingual title.

Occasionally numerical, typographical or other clerical errors are made in the publication of the text of regulations. Corrections are published in *The Ontario Gazette*. A schedule of the dates these corrections were published is included at the end of this Table.

The dates on which regulations were published in *The Ontario Gazette* are set out in a table immediately following this Table.

The abbreviation "Rev." means revoked.

The abbreviation "Exp." means expired.

TABLE DES RÈGLEMENTS

La Table des règlements énumère tous les règlements contenus dans les Règlements refondus de l'Ontario de 1990 et ceux pris après le 31 décembre 1990 mais avant le 1^{er} janvier 1998. Elle indique également les modifications apportées à ces règlements.

La plupart des entrées ne figurent qu'en anglais. Quelques règlements ont une version française officielle et leur titre est indiqué dans les deux langues.

À l'occasion, des erreurs d'écritures, notamment d'ordre numérique ou typographique, se glissent dans le texte des règlements qui sont publiés. Des corrections sont publiées dans la *Gazette de l'Ontario*. Les dates auxquelles ces corrections ont été faites figurent dans l'annexe qui se trouve à la fin de cette Table.

Les dates auxquelles les règlements ont été publiés dans la *Gazette de l'Ontario* figurent dans la table qui suit celle-ci.

L'abréviation «Rev.» indique que le règlement est abrogé.

L'abréviation «Exp.» indique que le règlement est périmé.

| | R.R.O. 1990 | O. Reg. <i>Règl. de l'Ont.</i> | Amendments <i>Modifications</i> |
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| Ontario Court (General Division)—Family Court—Fees/ <i>Cour de l'Ontario (Division générale) — Cour de la famille — Frais</i> | | 417/95 | 215/97 |
| Ontario Court (General Division) and Court of Appeal— Fees/ <i>Cour de l'Ontario (Division générale) et Cour d'appel — Honoraires et frais</i> | | 293/92 | 136/94, 272/94, 359/94, 802/94, 212/97, 248/97 |
| Ontario Court (Provincial Division)—Fees/ <i>Cour de l'Ontario (Division provinciale) — Frais</i> | | 296/92 | 138/94, 216/97 |
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| —Fees and Allowances | | 585/91 | 297/92, 367/92, Rev. 432/93 |
| —Fees and Allowances/ <i>Honoraires, frais et indemnités</i> .. | | 432/93 | 139/94, 214/97 |
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| AGGREGATE RESOURCES ACT/LOI SUR LES RESSOURCES EN AGRÉGATS | | | |
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| General/ <i>Dispositions générales</i> | | 244/97 | 535/97 |
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| Equalization of Assessments (Various Municipalities) | | 605/93 | |
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| Shopping Centres (Toronto) | | 529/96 | |
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| —the Town of Kapuskasing and the geographic Townships of O'Brien, Owens and Teetzel (to the Kapuskasing and District Planning Board) | | 675/78 | Rev. 136/95 |
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| —Geographic Township of West | | 182/81 | 117/92 |
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| —Geographic Townships of Casgrain, Hanlan, Kendall, Lowther and Way | | 493/78 | 30/92, 42/92, 172/93, 158/94, 342/95, 406/95, 457/96 |
| —Geographic Townships of O'Brien, Owens and Teetzel | | 423/78 | 40/92, 139/93, 598/93, 458/96 |
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| —Geographic Township of Miscampbell | | 449/74 | 98/92 |
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| —Unorganized Territories of Lake of the Woods | | 450/95 | 188/97 |
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| 799/92 | 16/01/93 | 544/93 - 556/93 | 2/10/93 | 345/94 - 348/94 | 18/06/94 |
| 1/93 - 3/93 | 23/01/93 | 557/93 - 585/93 | 9/10/93 | 349/94 - 373/94 | 25/06/94 |
| 4/93 - 15/93 | 30/01/93 | 586/93 - 598/93 | 16/10/93 | 374/94 - 380/94 | 2/07/94 |
| 16/93 - 22/93 | 6/02/93 | 599/93 - 629/93 | 23/10/93 | 381/94 - 423/94 | 9/07/94 |
| 23/93 - 47/93 | 13/02/93 | 630/93 - 644/93 | 30/10/93 | 424/94 - 443/94 | 16/07/94 |
| 48/93 - 60/93 | 20/02/93 | 645/93 - 649/93 | 6/11/93 | 444/94 - 456/94 | 23/07/94 |
| 61/93 - 65/93 | 27/02/93 | 650/93 - 689/93 | 13/11/93 | 457/94 - 459/94 | 30/07/94 |
| 66/93 - 73/93 | 6/03/93 | 690/93 - 719/93 | 20/11/93 | 460/94 - 502/94 | 6/08/94 |
| 74/93 - 78/93 | 13/03/93 | 720/93 - 725/93 | 27/11/93 | 503/94 - 519/94 | 13/08/94 |
| 79/93 - 88/93 | 20/03/93 | 726/93 - 737/93 | 4/12/93 | 520/94 - 526/94 | 20/08/94 |
| 89/93 - 111/93 | 27/03/93 | 738/93 - 775/93 | 11/12/93 | 527/94 - 529/94 | 27/08/94 |
| 112/93 - 135/93 | 3/04/93 | 776/93 - 805/93 | 18/12/93 | 530/94 - 546/94 | 3/09/94 |
| 136/93 - 143/93 | 10/04/93 | 806/93 - 846/93 | 25/12/93 | 547/94 - 562/94 | 10/09/94 |
| 144/93 - 151/93 | 17/04/93 | 847/93 - 897/93 | 1/01/94 | 563/94 - 571/94 | 17/09/94 |
| 152/93 - 161/93 | 24/04/93 | 898/93 - 932/93 | 8/01/94 | 572/94 - 575/94 | 24/09/94 |
| 162/93 - 180/93 | 1/05/93 | 933/93 - 953/93 | 15/01/94 | 576/94 - 598/94 | 1/10/94 |
| 181/93 - 191/93 | 8/05/93 | 1/94 - 5/94 | 22/01/94 | 599/94 - 607/94 | 8/10/94 |
| 192/93 - 244/93 | 15/05/93 | 6/94 | 29/01/94 | 608/94 - 611/94 | 15/10/94 |
| 245/93 - 298/93 | 22/05/93 | 7/94 | 5/02/94 | 612/94 - 617/94 | 22/10/94 |
| 299/93 - 305/93 | 29/05/93 | 8/94 - 30/94 | 12/02/94 | 618/94 - 643/94 | 29/10/94 |
| 306/93 - 312/93 | 5/06/93 | 31/94 - 43/94 | 19/02/94 | 644/94 - 658/94 | 5/11/94 |
| 313/93 - 315/93 | 12/06/93 | 44/94 - 46/94 | 26/02/94 | 659/94 - 676/94 | 12/11/94 |
| 316/93 - 328/93 | 19/06/93 | 47/94 - 72/94 | 5/03/94 | 677/94 - 695/94 | 19/11/94 |
| 329/93 - 337/93 | 26/06/93 | 73/94 - 82/94 | 12/03/94 | 696/94 - 700/94 | 26/11/94 |
| 338/93 - 358/93 | 3/07/93 | 83/94 - 105/94 | 19/03/94 | 701/94 - 723/94 | 3/12/94 |
| 359/93 - 379/93 | 10/07/93 | 106/94 - 144/94 | 26/03/94 | 724/94 - 730/94 | 10/12/94 |
| 380/93 - 401/93 | 17/07/93 | 145/94 - 163/94 | 2/04/94 | 731/94 - 756/94 | 17/12/94 |
| 402/93 - 411/93 | 24/07/93 | 164/94 - 178/94 | 9/04/94 | 757/94 - 772/94 | 24/12/94 |
| 412/93 - 422/93 | 31/07/93 | 179/94 - 230/94 | 16/04/94 | 773/94 - 800/94 | 31/12/94 |
| 423/93 - 433/93 | 7/08/93 | 231/94 - 233/94 | 23/04/94 | 801/94 - 817/94 | 7/01/95 |
| 434/93 - 470/93 | 14/08/93 | 234/94 - 249/94 | 30/04/94 | 818/94 - 819/94 | 14/01/95 |
| 471/93 - 476/93 | 21/08/93 | 250/94 - 258/94 | 7/05/94 | 1/95 - 3/95 | 21/01/95 |

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| 4/95 - 11/95 | 28/01/95 | 406/95 - 417/95 | 14/10/95 | 274/96 - 285/96 | 6/07/96 |
| 12/95 - 30/95 | 4/02/95 | 418/95 - 421/95 | 21/10/95 | 286/96 - 305/96 | 13/07/96 |
| 31/95 - 36/95 | 11/02/95 | 422/95 - 426/95 | 28/10/95 | 306/96 - 323/96 | 20/07/96 |
| 37/95 - 54/95 | 18/02/95 | 427/95 - 442/95 | 4/11/95 | 324/96 - 327/96 | 27/07/96 |
| 55/95 - 60/95 | 25/02/95 | 443/95 - 456/95 | 11/11/95 | 328/96 - 353/96 | 3/08/96 |
| 61/95 - 65/95 | 4/03/95 | 457/95 - 467/95 | 18/11/95 | 354/96 - 361/96 | 10/08/96 |
| 66/95 - 96/95 | 11/03/95 | 468/95 - 473/95 | 25/11/95 | 362/96 - 364/96 | 17/08/96 |
| 97/95 - 106/95 | 18/03/95 | 474/95 - 476/95 | 2/12/95 | 365/96 - 369/96 | 24/08/96 |
| 107/95 - 118/95 | 25/03/95 | 477/95 - 479/95 | 9/12/95 | 370/96 - 387/96 | 31/08/96 |
| 119/95 - 135/95 | 1/04/95 | 480/95 - 488/95 | 16/12/95 | 388/96 - 403/96 | 7/09/96 |
| 136/95 - 158/95 | 8/04/95 | 489/95 - 503/95 | 23/12/95 | 404/96 - 406/96 | 14/09/96 |
| 159/95 - 191/95 | 15/04/95 | 504/95 - 530/95 | 30/12/95 | 407/96 - 413/96 | 21/09/96 |
| 192/95 - 207/95 | 22/04/95 | 531/95 - 547/95 | 6/01/96 | 414/96 - 418/96 | 28/09/96 |
| 208/95 - 224/95 | 29/04/95 | 548/95 - 549/95 | 13/01/96 | 419/96 - 422/96 | 5/10/96 |
| 225/95 - 244/95 | 6/05/95 | 1/96 - 5/96 | 27/01/96 | 423/96 - 448/96 | 12/10/96 |
| 245/95 - 262/95 | 13/05/95 | 6/96 - 9/96 | 3/02/96 | 449/96 - 456/96 | 19/10/96 |
| 263/95 - 278/95 | 20/05/95 | 10/96 | 10/02/96 | 457/96 - 464/96 | 26/10/96 |
| 279/95 - 290/95 | 27/05/95 | 11/96 - 27/96 | 17/02/96 | 465/96 - 475/96 | 2/11/96 |
| 291/95 - 295/95 | 3/06/95 | 28/96 - 36/96 | 24/02/96 | 476/96 - 480/96 | 9/11/96 |
| 296/95 - 308/95 | 10/06/95 | 37/96 - 41/96 | 2/03/96 | 481/96 - 494/96 | 16/11/96 |
| 309/95 - 310/95 | 17/06/95 | 42/96 - 50/96 | 9/03/96 | 495/96 - 499/96 | 23/11/96 |
| 311/95 - 315/95 | 24/06/95 | 51/96 - 69/96 | 16/03/96 | 500/96 - 502/96 | 30/11/96 |
| 316/95 - 318/95 | 1/07/95 | 70/96 - 74/96 | 23/03/96 | 503/96 - 506/96 | 7/12/96 |
| 319/95 - 320/95 | 8/07/95 | 75/96 - 76/96 | 30/03/96 | 507/96 - 514/96 | 14/12/96 |
| 321/95 - 331/95 | 15/07/95 | 77/96 - 92/96 | 6/04/96 | 515/96 - 524/96 | 21/12/96 |
| 332/95 - 334/95 | 22/07/95 | 93/96 - 108/96 | 13/04/96 | 525/96 - 546/96 | 28/12/96 |
| 335/95 - 337/95 | 29/07/95 | 109/96 - 138/96 | 20/04/96 | 547/96 - 557/96 | 4/01/97 |
| 338/95 - 343/95 | 5/08/95 | 139/96 - 140/96 | 27/04/96 | 558/96 - 564/96 | 11/01/97 |
| 344/95 - 354/95 | 12/08/95 | 141/96 - 155/96 | 4/05/96 | 1/97 - 11/97 | 18/01/97 |
| 355/95 - 356/95 | 19/08/95 | 156/96 - 162/96 | 11/05/96 | | 25/01/97 |
| 357/95 - 365/95 | 26/08/95 | 163/96 - 173/96 | 18/05/96 | 12/97 - 15/97 | 1/02/97 |
| 366/95 - 371/95 | 2/09/95 | 174/96 - 193/96 | 25/05/96 | 16/97 - 31/97 | 8/02/97 |
| 372/95 - 377/95 | 9/09/95 | 194/96 - 213/96 | 1/06/96 | 32/97 - 37/97 | 15/02/97 |
| 378/95 - 386/95 | 16/09/95 | | 8/06/96 | 38/97 - 43/97 | 22/02/97 |
| 387/95 - 392/95 | 23/09/95 | 214/96 - 235/96 | 15/06/96 | 44/97 - 47/97 | 1/03/97 |
| 393/95 - 399/95 | 30/09/95 | 236/96 - 257/96 | 22/06/96 | 48/97 - 54/97 | 8/03/97 |
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| 86/97 - 93/97 | 29/03/97 | 407/97 - 417/97 | 6/12/97 | | |
| 94/97 - 95/97 | 5/04/97 | 418/97 - 431/97 | 13/12/97 | | |
| 96/97 - 105/97 | 12/04/97 | 432/97 - 450/97 | 20/12/97 | | |
| 106/97 - 112/97 | 19/04/97 | 451/97 - 498/97 | 27/12/97 | | |
| 113/97 | 26/04/97 | 499/97 - 521/97 | 3/01/98 | | |
| 114/97 - 137/97 | 3/05/97 | 522/97 - 533/97 | 10/01/98 | | |
| 138/97 - 144/97 | 10/05/97 | 534/97 - 540/97 | 17/01/98 | | |
| 145/97 - 158/97 | 17/05/97 | | | | |
| 159/97 - 170/97 | 24/05/97 | | | | |
| 171/97 - 180/97 | 31/05/97 | | | | |
| 181/97 - 194/97 | 7/06/97 | | | | |
| 195/97 - 211/97 | 14/06/97 | | | | |
| 212/97 - 222/97 | 21/06/97 | | | | |
| 223/97 - 226/97 | 28/06/97 | | | | |
| 227/97 - 235/97 | 5/07/97 | | | | |
| 236/97 - 249/97 | 12/07/97 | | | | |
| 250/97 - 259/97 | 19/07/97 | | | | |
| 260/97 - 266/97 | 26/07/97 | | | | |
| 267/97 - 270/97 | 2/08/97 | | | | |
| 271/97 - 282/97 | 9/08/97 | | | | |
| 283/97 - 291/97 | 16/08/97 | | | | |
| 292/97 - 294/97 | 23/08/97 | | | | |
| 295/97 - 324/97 | 30/08/97 | | | | |
| 325/97 - 330/97 | 6/09/97 | | | | |
| 331/97 - 337/97 | 13/09/97 | | | | |
| 338/97 - 343/97 | 20/09/97 | | | | |
| 344/97 - 348/97 | 27/09/97 | | | | |
| 349/97 - 350/97 | 4/10/97 | | | | |
| 351/97 - 358/97 | 11/10/97 | | | | |
| 359/97 - 364/97 | 18/10/97 | | | | |
| 365/97 - 370/97 | 25/10/97 | | | | |
| 371/97 - 377/97 | 1/11/97 | | | | |
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